The Journal of Educational Method

VOLUME I JANUARY, 1922 NUMBER 5

EDITORIALLY SPEAKING

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MASSACHUSETTS LEADS

If ye editor is correctly informed, Massachusetts is taking more active steps to develop modern methods of teaching than any other state. At least she has the first project society which has reported and she is the first to attempt to coördinate the activities of all of her teacher-training institutions in that field. It is the custom of Mr. Wright, the director of elementary and secondary education and of teacher training in the state, to call the entire personnel of the faculties of the several normal schools into conference early in September of each year. In 1921 a chief topic of discussion was educational method and Professor W. H. Kilpatrick, of Teachers College, was engaged to give a series of lectures on the project method. Commissioner Wright is now planning a systematic follow-up. Miss Elizabeth Fisher, of the Lowell Normal School, will visit each of the other normal schools in turn and conduct conferences for the discussion of the problems of method which are arising in the progress of the work in each school. She will also address the student body, giving to each group of students the advantage of her impressions gained from observing the work of various schools. The country needs the stabilizing which fundamental ideas in education give, and at present the most far-reaching conception of method is undoubtedly that suggested by the term "project" as used by its most thoughtful interpreters. No doubt other states will emulate Massachusetts now as they have often done in the past.

WANTED: SCIENTIFIC STUDIES

If the discussion of educational method is to get beyond the introductory stages, we must have more accurate data upon which to base conclusions than we now have. This applies quite as much or more to supervision as to teaching. Indeed Mr. Courtis's account in *School and Society* of a year or two ago remains almost alone in its field. He gave, it will be remembered, the results of testing schools in which the work in geography had been unsupervised, supervised in a general way, and supervised in detail, with a follow-up from room to room. Many are confident that the newer methods of work, which enlist more fully the pupils' energies and awaken their powers, do actually achieve both more and better results. In a word they attain economy. But we should be in a more satisfactory position if we had a larger array of verifiable facts. Do children learn to spell better when they learn by the project method? Let us find out.

This *Journal* will welcome well-written accounts of experiments involving rational attempts to measure the effects of newer methods, side by side with articles of a theoretical character and informal accounts of teaching experience. We wish to publish quantitative studies which bear upon the value of method. Who will help?

STANDARDS FOR RATING PUPILS

H. G. MASTERS

Principal, Beechview-Beechwood Schools, Pittsburgh, Pennsylvania

Little attention has been given to formulating standards that would serve the teacher as a guide in rating pupils. At present the teacher is forced to rely upon standards that are the result of her own experience. These are individual standards and represent the teacher's personal reactions to the problem. The inevitable result is that there are as many standards as there are teachers putting "marks" on report cards. A pupil, under these conditions, may consistently throughout his school life do work worthy of a grade of "good," and yet be rated all the way from "unsatisfactory" to "excellent." Much of the criticism from parents and pupils may be laid to this lack of a uniform rating standard.

The organization of these schools is such that it was more convenient to have the teachers work in two groups. The general plan was to have each group work out a set of standards. The principal, acting as chairman of each group, was able, in some measure, to guide the discussion along parallel lines. In this way radical differences in the two sets were avoided.

Each group having completed its work, the two united in a series of meetings to select the best from each set of standards and mold these into a composite set that would represent the best thought of the group as a whole. There still remained, however, some moot points to be cleared up and a committee of three, one each from the primary, intermediate, and grammar grades, was appointed to work with the principal in arranging "Standards" in the present form.

Copies of the "Standards" were placed on the bulletin boards and in each room.

They were discussed at one of the weekly assembly meetings. The teachers set aside a study period for a discussion of how the "Standards" were to be applied, the object being to put before the pupils, in as concrete a way as possible, what the faculty considered the outstanding characteristics of pupils being rated with any one of the letters in use. The pupils quickly realized that here was a measuring rod, something concrete by which they could measure themselves and upon which they could base an argument for a change in rating. The teachers, likewise, found in the "Standards" a basis upon which to make a rating in the first instance and to justify it later if necessary. Both pupils and teachers accepted the "Standards" as the basis of settlement of any question arising in connection with "marks" on the report card.

Pupils in grades four to eight graded themselves, using the "Standards." These grades were later compared with the semester marks given by the teacher. The results of the comparison show that in 12% of the cases the teacher's rating was higher than the pupil's; in 61.2% of the cases the teacher's rating was the same as the pupil's; in 26.8% of the cases the teacher's rating was lower than the pupil's.

So far the "Standards" have justified their existence. But much more needs to be done before they will have attained their greatest value. Objectives in subject matter must be worked out and socialized. These must be so simply and clearly written that the pupil may read with understanding. He must be able to mark off his progress on this "simplified" course of study and be his own judge as to whether or not he has earned promotion. It means a dual course of study: one in simplified form for parent and pupil, another in great detail and highly socialized for the use of the teacher and school officials.

STANDARDS FOR RATING PUPILS

Beechview-Beechwood Public Schools

	E Pupil	*G Pupil*	*F Pupil*	*U Pupil*	*P Pupil*
A.	1. Recitation (oral and written) clear and concise. 2. Asks intelligent questions. 3. 90% of work done correctly.	1. Recitation (oral and written) clear and concise with help. 2. Asks majority of questions intelligentiy. 3. 80% of work done correctly.	1. Recitation (oral and written) fairly clear with much help. 2. Asks some intelligent questions. 3. 70% of work done correctly.	1. Recitation (oral and written) indefinite or careless. 2. Seldom asks intelligent questions. 3. 60% of work done correctly.	1. Recitation (oral and written) shows little idea of subject matter. 2. Asks and answers very few questions. 3. Less than 60% of work done correctly.
B.	1. Thorough, prompt, and shows initiative. 2. Makes up work lost during absence.	1. Thorough and prompt with some help. 2. Shows some initiative. 3. Makes up some of work lost during absence.	1 Requires urging and much help to follow directions. 2. Shows little initiative. 3. Does not make up work lost during absence.	1. Forced preparation. 2. Can follow few directions. 3. Does not make up work lost during absence.	1. Makes no preparation. 2 Cannot follow directions. 3. Does not make up work lost during absence.
C.	1. Receives criticism well and corrects mistakes. 2. Attentive and enthusiastic in every phase of school activity.	1. Receives criticism and corrects most mistakes. 2. Attentive and enthusiastic in every phase of school activity.	1. Accepts criticism and corrects some mistakes. 2. Lax in attention and enthusiasm but willing to coöperate.	1. Inattentive to criticism and does not correct mistakes. 2 Lacks enthusiasm and coöperation.	1. Indifferent and listless. 2 Lacks enthusiasm and coöperation.
D.	1. Marked ability to apply knowledge.	1. Ability to apply knowledge.	1. Requires help to apply knowledge.	1. Has little ability to apply knowledge.	1. Has very little ability to apply knowedge.
	A. Knowledge of subject matter.		B. Preparation.	C. Attitude.	D. Application.

THE PROBLEM METHOD[1]

WILLIAM BISHOP OWEN
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Educational thought is subject to frequent shifts of emphasis. Now it is the curriculum that is criticized. Again it is the method of teaching that receives chief attention. All at once we are discussing the organization and administration of the schools. These shifts are unsettling. Just as one has his own system worked out, he has to square himself with the new demand. No teacher wishes to be behind the times. Everyone is ambitious to know and use the latest and best in theory and practice. Professional pride and the desire for professional advancement conspire to keep one alert and moving. In spite of popular tradition, the modern teacher neither is nor is permitted to be stationary, conservative; education is in a flux. Change is everywhere dominant. It is hard to keep one's feet on the ground. Even the direction is lost sight of. Some one is always arising to challenge every effort and to dispute every result. It is a wonder that anyone retains his courage and confidence.

All this, however, is but evidence of growth. The past three decades in American education have wrought wonderful changes. The whole conception of what education is has been broadened and defined. All tradition has been subjected to scrutiny and examination. Nothing has been allowed to escape. A new theoretical basis has been laid for our practice. New aims, new standards, new methods, new values have been stated. Progress in all related sciences has compelled progress here. New concepts, new technique, new terminology have been introduced. Education has gained the right to be classed as a profession.

This change and growth has begun to reveal certain definite and discernible tendencies. Fundamental lines of development are giving stability and meaning to the process. Social life, for example, is accepted as the test of value of any curriculum or method. The method of testing processes by their results has been carried over into this realm. The school is an institution designed to insure social continuity and social progress. There is a vast deal to be done in the way of embodying the new points of view in concrete form. But the method of experiment is relied on to give us this result. We are confident, not that we have achieved finality, but that we have arrived at a method of progress.

In the midst of all this change, we draw back when a new organization, a new method is proposed. We have seen too many devices have their day. We are suspicious of panaceas. We have learned only to unlearn too many educational slogans. The doctrine of interest, the Gary system, the theory of concentration, the doctrine of correlation, where are they? Is it strange that the teacher becomes blasé, suspicious, conservative, and contemptuous? Storm-tossed, with the earth and sky mingled together, our greatest need would seem to be stability and a guiding star.

Just now we are asked to accord hospitality to another newcomer, the Problem

[1] This article originally appeared in the Chicago School Journal.

Method, or the Problem-Project Method, if you please. We shall have to take account of it, whether we will or no. Just how seriously we should consider it, we have a right to inquire. Perhaps we can assure ourselves of the right answer by an examination of its scientific credentials. Where did it come from, how does it happen to be here, what claims does it make, on what are its claims based? This article will attempt to answer some of these questions. No effort will be made to expound the method either in outline or in detail. It will be sufficient to trace it to its origin in certain scientific and practical tendencies of the day. Perhaps we can then judge how much likelihood there is that it has come to stay, as much as anything really stays.

The Problem Method, or Problem-Project Method, is the formulation for educational use and application of results gained in five fields of thought and activity. These are: (1) Modern Philosophy, (2) Modern Logic, (3) Modern Psychology, (4) Modern Science, (5) Modern Industry. These fields overlap, of course, but it is aside from the purpose of this article to trace their mutual relations and interdependence. Corresponding to these five sources, we find five outstanding moments, factors, elements, as you will, that form the basic structure of the method. These are: (1) The Philosophy of Experience, (2) The Logic of Purpose, (3) The Psychology of the Act, (4) The Method of Science, (5) The Processes of Industry. Let us consider each briefly. They may seem formidable garbed in their technical terminology, but they are really very simple. If only we can make them seem so!

1. *The Philosophy of Experience.* The term experience in philosophy and education is fundamental. It cannot be defined. We all know what it is. It is the all-inclusive term for all that we are aware of. It applies to the whole or to any part of the content of our lives. A sensation, a thought, a feeling, a resolve, an ideal, a wish, a hope, a party, a battle, a football game, a map, anything and everything that we know of we classify as experience. The experience philosophy takes the point of view that the most effective control of life is to be had from the control of the inner life, *i. e.*, experience. It thus takes radical issue with the behavioristic school that would ignore, if not deny, the inner life, and would seek the control of life from the study of outward behavior. Perhaps it would be truer to say that the experience philosophy includes both the inner and the outer under the concept of experience. For education, two positions taken by this philosophy are fundamental. The first is that *experience can be controlled.* We have control of anything when we can wield it to accomplish our purposes. We can control our experience so as to bring about desired results in our experience. We can direct our present experience so as to bring a future experience that we foresee. This is all rather abstract, but still clear and simple. By having the experience of planting a seed under certain conditions we can have later the experience of seeing the plant, the flower, the fruit. Education is the enlargement and control of experience.

There are two kinds of experience: (1) direct experience and (2) indirect experience. Direct experience is produced by the object or situation being present to stimulate us. We have direct experience of a battle when we are in it. We have direct experience of an orange tree when we see, touch, handle the tree and fruit.

Indirect experience is produced by communication. We read about a battle and try to imagine ourselves there. We study about the orange tree, see pictures of it, buy the fruit, and construct an image of it. But the object or the situation is not present to the senses. Indirect experience approximates direct experience. It is like it in quality but differs in degree and completeness. We read about the Parthenon, see pictures of it, compare it with other monuments, but there is an added sense of reality when we actually behold it. The relation of direct and indirect experience is this: *Indirect experience is possible to us only as direct experience has given us the elements of the communicated experience.* I can understand the geography of Africa, which I have never seen, only to the degree that my direct experience has made me able to understand and image a tropical climate, a sandy waste, wild animals, dark-skinned men, and the like. *Indirect experience is valuable to us only as what is communicated enables us to enlarge and control our direct experience.* We read that phosphate rock will restore soil. We purchase and use it in a worn-out field. We receive a great increase. Indirect or borrowed experience has controlled our action but has resulted in an enlarged and direct experience. The second fundamental position is that *experience is social.* The individual has it. It is peculiar to him. But it is social at the same time. It is gained in coöperation and communication with others. Others are a part of his experience. They make it possible. They join with him to create it. Others have elsewhere and at other times had and handed over to him their experience in word, institution, custom, invention, and the like. Coöperation and communication are the social activities resulting in the enlargement and control of individual experience. Education should consciously carry on these activities so as to maintain the continuity of individual experience. The classroom group provides the opportunity. The socialized recitation is this social process made into a conscious method of instruction.

2. *The Logic of Purpose.* The second fundamental moment or factor in the problem method is the standpoint of modern logic. The essence of this position is that thought should be studied as a function rather than as a structure. It asks what thought does. It inquires under what conditions it arises, how it goes on, what results it produces. Our older books on method were built on the inherited structural logic that goes back to Aristotle. They laid great stress on induction, deduction, reasoning, questioning, defining and the like. Functional logic emphasizes the fact that thinking takes place in the presence of a problem. It describes how the mind proceeds to solve this problem. The problem forces the forming of a purpose. Thinking seeks the realizing of this purpose by forming a plan and trying it out. If it succeeds, the problem is solved, the purpose is accomplished, the plan is proved true. This functional logic, it may be said, is but the refined exposition of the method of modern science, particularly biological science. Aristotle's logic was based on the scientific procedure and results of the century preceding him. Modern logic is based on the scientific procedure and results of the last century. For education the vital point is that problem, purpose, and thinking are seen to be indissolubly linked. No problem, no purpose, no thinking. Add that problem, purpose, and thinking belong to experience, not to behavior, and that all

three involve social coöperation and the connection of the second fundamental moment with the first becomes at once apparent.

3. *The Psychology of the Act.* The third fundamental moment in the problem method is the psychology of action. This psychology is based on the anatomy of the nervous system. This nervous system consists of a series of five elements—sense organ, sensory nerve, brain, motor nerve, muscle. A complete act involves all five. Reflex and instinctive acts do not require thinking. Habitual acts may dispense with thinking. New situations, however, cannot be met by reflex, instinctive, or habitual reactions. The new problem requires thought for its solution. The brain suspends the activity of the series of the five elements until the right action is thought out. Once thought out, the series is restored and the act follows. If the right result follows, the problem is solved. But it takes a complete act to get a complete experience. Only the complete experience can test the value of the thought. That is why we "learn by doing." The problem, therefore, calls for a new form of action and thinking is the means of establishing this new form of action. Modern functional logic and modern biological psychology coincide in their emphasis on the relation of problem, purpose, and thought.

4. *The Method of Science.* The fourth moment in the problem method is the method of modern science. As indicated above, this procedure has furnished the basis of modern logic. But the scientist is not studying logic. He is solving problems. These problems are objective. They are practical, arising in the field of industry; or theoretical, arising in the prosecution of research. The method of procedure has been learned by experiment. Experiment always starts with a problem. It may be a problem to the student, as in high-school physics, or a problem to the world of science, as the isolation of an ion. The success of the scientific procedure or method has dictated the method of instruction in the sciences. Therefore we have the laboratory. The problem method is established in science instruction. Only recently have the teachers of science recognized that in the earlier years the pupil's problem was the starting point for the teaching of elementary science. This is the step forward taken by the movement in general science. The example of the sciences, therefore, has contributed practically to the theory and practice of the problem method. It might not be too much to say that science has been the chief source of the movement.

5. *The Processes of Industry.* The fifth moment in the problem method has been contributed by industrial processes. Industry, that is, manufacturing, the trades, the domestic arts, agriculture and the like, have definite practical problems to solve and definite purposes to accomplish. The problems and purposes are clear and tangible. The schools have learned how to imitate industry. The manual training shops, the cooking laboratories, state their curricula in the form of problems. The pupils make a chair, a table, a gas engine; they print a pamphlet; they make bread, bake potatoes, can peaches; they design and make a dress. The problem and the purpose of the activity are definite and clear. The procedure is learned as a means to an end. The solution has the practical, objective test of the result obtained.

The problem method is, then, no mere device. It is not a new formula of success.

It is an effort to make available for school procedure the results of modern philosophy, modern logic, modern psychology, modern science, and modern industry where they coincide in making the problem the starting point for purposeful activity, for thinking. It attempts to make school procedure tally with the theoretical and practical procedure of the world. It aims thus to connect the school with life.

COERCION AND LEARNING[1]

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The teachers meet again

"Ever since our talk on mind-set and learning I have been wondering how coercion would affect learning. Wouldn't there be a contrary mind-set which would interfere with learning? And if so, how is it that we do find children learning under teachers who use coercion? Our reasoning last time on the influence of purpose on learning seemed clear and was convincing to me, but I can't go on and straighten out the effect of coercion."

A review

"Before we begin on something new, suppose we summarize our conclusion on mind-set and learning. We'll then be in a better position to see and perhaps solve the problem you raise. For it is a very real and very important problem.

Mind-set and learning

"Perhaps our best plan will be to present a tabular statement of how a strong mind-set acts. Suppose a boy who 'likes' mathematics is brought face to face with a certain difficult problem. The teacher says this is an unusually hard problem, he doesn't know whether any member of the class can solve it or not, though they have now enough mathematics to solve it. He'd like them to try, but he is not very hopeful. The boy feels in this a definite challenge. He proposes to solve that problem and 'all by himself.' He attacks it, but it doesn't yield at once. He redoubles his efforts. We have then a clear case of study and, let us suppose, of eventual success under the influence of a very strong mind-set-to-an-end. We find accordingly

1. *A definite end in view.* The boy is definitely determined to solve the problem all by himself.
2. *An inner urge to attain this end.* The teacher has not required the problem, but the boy is strongly urged on by himself from within to solve it.
3. *Readiness in all the boy's pertinent inner resources.* All his knowledge and skill, all his available ideas, are in a state of readiness. They rise up, as it were, earnestly desiring to be used.
4. *An unreadiness for thwarting activities.* He has real difficulty for the time being to enter wholesouledly into his other lessons. He can hardly cease thinking about the problem.
5. *The end defines success for him.* He won't count it success unless he solves the problem beyond a question and by his own unaided efforts.
6. *Success attained brings satisfaction.* The stronger the mind-set and the more difficulty in finding the solution, the greater will be the satisfaction of success.
7. *Satisfaction means fixing the responses that brought success.* When he finally sees the solution, the way out of the difficulty, the satisfaction attending will by the law of Effect fix in him the success-bringing steps."

[1] All rights reserved by the author.

"Do you mean by 'fixing the success-bringing steps' that he will remember the solution?"

"Yes, I mean that and more. Solving the problem means seeing the elements of the problem in a certain appropriate relationship. Now the satisfaction of success will fix in him this relationship. It will be almost impossible for him to forget it. Moreover his mind will in sheer pleasure at hard earned success play back and forth over the main success-bringing step, so that exercise with renewed effect will fix this yet more strongly in his mind. Each time he shows his solution to an appreciative listener, this fixing process will again be repeated. And there is yet more. This present success will make him more inclined to attack the next challenging problem he meets. And he will for the same reason find it easier next time to get into the spirit of seeking; the mind-set to study having this time brought success will the next time more readily call into play the boy's available mathematical resources for solving such a problem."

"Is this why purposeful learning is so much advocated now?"

The function of purpose

"Yes, only there are still other reasons for wishing to utilize the child's purpose. There is in the first place more likelihood of success. The strong inner urge will mean stronger efforts. Then there is greater probability of a good organization resulting. The definite end makes it easier to form an effective organization, because there is something to guide the steps. This is more evident where the effort to attain the end involves the assembling and uniting into one whole of many obviously different steps. The third reason for wishing the strong purpose is the one above described, that the learning better takes place. The learning not only comes quicker, but it is more abiding when it does thus come. The satisfaction following success effects that by the law of Effect."

"You have not said anything about annoyance. Does that not enter into the situation?"

"Yes, but negatively. The steps that lead nowhere bring annoyance and for that reason they tend to drop out, to be not repeated next time. This is the other half of the law of Effect."

"Doesn't the satisfaction of such success affect also the associate suggestions and the concomitant learning that we discussed in October?"

"Indeed it does, but we must leave that now while we go back to the matter of coercion."

"Before you do that I have one question. We have always known that the capable child learned readily and the more so when he was interested. I don't see that you have told us anything new. What I want is some way to get learning from the mediocre boy who isn't interested. Have you helped us with him?"

Why study this question?

"There is certainly nothing new in saying that the capable boy who works with strong purpose will learn. As you say, we've always known that as a fact. But to see wherein and how the learning takes place is another matter. For most people such an insight is new. If we can see more intimately and exactly into the learning process as it goes on under differing conditions, perhaps we'll know better how to direct the process. We have seen how learning takes place when a boy is deeply interested. Now we propose to see what happens and *how* it happens when a boy acts under coercion.

Between these two extremes are included most instances of learning. If we understand the extreme cases, possibly we'll know better how to handle the intermediate cases. We certainly have in the notion of purposeful learning no patent automatic process, no get-learning-quick scheme. On the contrary, we think any widespread appreciable improvement in school work will probably require long study on our part, but we believe that psychology suggests the point of attack and we propose to follow that leading."

"Won't you please take a clear case of coercion and carry through the whole discussion?"

"Before you do that I have one more question. What does coercion mean? Must there always be another person to do the coercing or might impersonal circumstances coerce? Might one even coerce himself? I wish you'd make this clear."

"To say what meaning a word shall have is not easy. Different people see things differently, and differing situations sometimes require differing senses of meaning. But if there is possible doubt we must say what meaning we propose to use. Let's begin with the clearest case of coercion, which is certainly where one person coerces another into doing something he wouldn't otherwise do. Suppose a boy has planned to go swimming with the other boys and his mother in spite of his tearful pleading forbids, and 'forces' him, as we say, 'against his will' to stay at home and mind the baby. Suppose further that before he will yield she has to threaten punishment and even after the other boys have gone she has to speak sharply to 'make' him treat the baby decently and care for her properly. What, now, are the characteristic elements in this instance of undoubted coercion? As it is an extreme case, we may expect the elements to stand out in unusual relief. First, in point of time we find a mind-set already occupying the stage of action. This mind-set would, unless thwarted, result in a certain line of conduct, here in going swimming with the boys. Second, there arises some interposition, felt by the one coerced to come more or less from the *outside*, which sets up the essential coercion, namely, a state of affairs that thwarts the activity already under way and *against the will* of the coerced directs experience along another and, under the circumstances, *unacceptable* line. Third, the one coerced *accepts but against his will* the new line of conduct because he fears a threatened and still more unacceptable alternative.

The meaning of coercion

"This is of course an analysis and description, not a logical definition. The italicized words must have been experienced in order to be understood; but having been experienced their meaning is fairly definite. With these understood, the essential elements of coerced activity stand out."

"It seems to me, then, that whether you call any such experience a case of coercion depends upon the attitude of the one concerned, whether there arises in him a contrary set which inwardly rejects while there is outward yielding."

Coercion is a matter of attitude

"Yes, I think you are right, and the more definite the inner rejection, the clearer is it a case of coercion."

"Might it not happen that what began as a clear case of coercion would cease to be such because the coerced changed his mind, the inner attitude shifting from rejection to acceptance?"

"You are quite right, and the possibility

of this is a matter of great practical importance for the educator."

"Would you also not need in this discussion to say whether you were thinking of the one who did the coercing or the one who felt coerced?"

"Perhaps so, but our instance given above was in terms of the attitude of the one coerced. Whether he learns or not is our concern, so we have given our analysis and discussion in terms of his attitude. We have in our past discussions seen clearly that the attitude of the learner affects his learning. That's why our discussion is here so given."

"Have we sufficiently answered the question as to whether coercion must come from another person or might proceed from circumstances?"

"I think so. This inner attitude of rejection is most easily and most typically aroused by persons, possibly because their motives are both complex and hid and are accordingly the more easily mistaken, and resentment is thus more readily stirred. Resentment, I may add, seems a typical accompaniment of coercion. The young and hotheaded may entertain feelings of resentful and rebellious rejection against mere impersonal circumstances, where older and calmer persons would accept such thwarting as inevitable. To the one group this kind of thwarting would be coercion, to the other not. But the two undoubtedly merge into each other in intermediate cases."

"Can, then, a person coerce himself?"

"With the discussion as given the question is for us now one of fact. Do we see anyone rejecting with inward rebellion what he imposes on himself? If yes, then one may coerce himself. The cases that seem most like it may, however, upon reflection turn out to be the coercion of circumstances rather than of one's self. The question thus becomes rather academic than useful."

"Well, may we not go on to something interesting? When you people get to splitting hairs, you never know when to stop. It gets so tiresome to the rest of us. Are we never to take up the effect of coercion on learning?"

"It is too bad to spend so much time on what may seem unnecessary. We are, however, now ready to go on with our topic. Shall we take an illustration and follow it through with the same steps we used at the outset?"

"By all means. An illustration always helps."

An instance of coercion

"Suppose, then, John has lately been so much interested in football that he has slighted his lessons. At length the teacher in desperation tells him that he must stay away from practice that afternoon and work some problems he has repeatedly missed. As soon as he can work them he may go. To make a clear case, suppose John feels rebellious the whole time but doesn't dare actually to rebel. Our problem, then, is to find out what kind of learning will go on, and how it will take place."

"Shall we take into account only the learning of the problems or shall we consider all the learning that takes place? I mean shall we ask about all the simultaneous attendant learnings that we discussed in our September and October meetings?"

"Eventually we must take account of all, because they are all taking place, but for our immediate purposes let's begin with the problem solving."

"Well, if the boy is going to be rebellious the whole time, he won't learn much. Any-

body knows that. I don't need to study psychology or pedagogy or pedaguese or anything else to tell me that. Why don't you ask something that people want to know?"

"Yes, we went over the same point earlier with learning through interest. The main results in the clear cases may already be known, but if we can find out how the rebellious attitude works to prevent the learning, we have learned something new; and perhaps then we'll know better how to manage rebellious cases. Shall we go on?"

"Yes, for gracious' sake do."

"Well, consider John. He stays because he's afraid not to stay, and he studies at least after a fashion. Is there any mind-set?"

"Certainly, he is dead set against the whole performance and, as you said, this contrary set continues throughout."

Opposed mind-sets

"Is that all? Is there any other mind-set? Remember, he can get out with the boys only if he will convince the teacher that he can work the problems. Does this mean anything?"

"Yes, it probably means that he will try to convince the teacher, and so will study the problems."

"Then he will have a mind-set on the problems?"

"To a degree, yes, but he may try to convince the teacher by some kind of bluff, or it may be even by cheating. But whatever the means he adopts for convincing the teacher, he will have at least some temporary mind-set for that."

"Why do you say his mind-set for the study or for the cheating, as the case may be, will be temporary?"

"Because he is really intent on getting to the football. That's the end for him. The study and fooling the teacher are only means. For the football he has what we called an *inner* urge. For what he does to convince the teacher there is only an *outer* urge."

"What is the effect of the rebelliousness?"

"It acts, as it were, on the side of the football urge. The two work together. They are almost parts of the same thing."

"Yes, I see that, but what is the effect of the rebellious spirit on these temporary sets? Doesn't the feeling of opposition keep him from trying to persuade the teacher?"

"I don't think so. I was wondering if this rebellious feeling of opposition doesn't work against the boy's studying, but in favor of his fooling the teacher."

"I believe you are right. The teacher undertakes to force the boy to study. To get ahead of the teacher would avoid the study and so afford an outlet for the boy's spirit of opposition. Yes, the rebelliousness works against study, but for getting ahead of the teacher."

"But suppose the boy is in the end forced to study, is there or is there not any set for the problem solving?"

"Well, let's see. Suppose one of the problems involved a long subtraction. Will the boy remember throughout that he is subtracting, or will he forget and either begin adding or have to go back and ascertain anew what he is trying to do?"

"Certainly if he is to solve the problem he must in some measure have a mind-set that puts his mind on it. In such case he probably would go ahead consistently in his subtraction."

"But the contrary mind-set roused by the coercion would interfere with this mind-set, wouldn't it?"

"Yes, as a rule the contrary mind-set

interferes to some extent with his attention to the arithmetic, at times so much so as to prevent anything but a very mechanical sort of attention. In other cases there would be less interference. In still others he might really give pretty good attention to the arithmetic."

"Would it not depend on the strength of the contrary set and on the degree of rebelliousness, as to how much interference there would be?"

"Exactly so."

"This discussion sounds very reasonable, but I thought we were to hear about the psychology of learning under coercion. You seem to have overlooked that."

"Suppose we take the seven definite steps in purposeful learning under a strong favorable mind-set as given above, and discuss the effect of coercion under those heads."

"All right. In that case we had a strong mind-set-to-an-end that favored, as you say, the learning. How is it here?"

"We have here also a strong mind-set, but it is opposed to his staying in or studying. We find also a certain temporary and relatively weak mind-set for the problems. The stronger the rebelliousness that attends the opposed mind-set, the weaker this mind-set for arithmetic is likely to be."

1. "What about the definite end in view?"

"There is one main end, to get to the football. There may be a kind of subordinate end to solve the problems, but there may be in place of this a plan of deceiving the teacher."

In coercion diverse ends

2. "What about the inner urge?"

"The inner urge is to get to the football. There may be a derived and temporary inner urge to deceive or otherwise cheat the teacher, but any urge for the problems would in this case be typically outer. It will let up as soon as the external pressure is removed."

3 and 4. "What about readinesses and unreadinesses?"

"Each mind-set will have its own system of readinesses and unreadinesses; and these will greatly interfere with each other. So long as the contrary mind-set is acting—especially so long as the rebellious feeling is present—it will be psychologically impossible for good arithmetical thinking to go on. The thoughts just won't come with the necessary fullness and freedom. Under such circumstances it would be only relatively mechanical work that could result."

Resulting unreadiness

"Won't there be actual readiness for thwarting activities? Don't pupils under such conditions actually take to a kind of sabotage, as they say in labor discussions?"

"There certainly is likely to arise readiness for thwarting activities, and sabotage is not an inapt phrase to describe many of them. But often an older and homelier word is even more apt."

"You mean cheating, I suppose, and you are certainly right. Many children have under unwise management found arising within very great 'readiness for thwarting activities.' In answer to such readiness, hitherto and otherwise good children may find a natural if unholy satisfaction in 'beating' the teacher?"

Tendency to deception

"Yes, here as elsewhere the law of Readiness holds: Where a bond is ready to act, to act gives satisfaction."

"And does this satisfaction fix the cheating habit in these children?"

"Yes, unless there is some counteracting annoyance. Only we mustn't say they will

surely cheat under all other conditions. The rule of no general automatic transfer holds here as well as elsewhere."

5. "And what is success for this boy?"

"It all depends on the ends set up. The main success, if success there be, will be getting out with the other boys. There may be the subsidiary success in his efforts at cheating, or the milder success at the problem solving."

Ambiguous success

6. "And what about the satisfaction which attends success?"

"Each success carries its own satisfaction, the amount of which depends on the strength of the corresponding mind-set. If the boy can beat the teacher, considerable satisfaction; he has got out and he did it by his own contrivance. If he solves the problems and so gets out, the main satisfaction may still be in getting out. The satisfaction in the problem solving as such is lessened in the degree that he has felt resentfully that his work has been under compulsion."

7. "What, then, shall we conclude about the learning that results from coercion?"

"First, in so far as the opposed mind-set begets unreadiness for the problem solving, in that degree the necessary thoughts are unlikely to arise. There is then danger that psychologically he will be unable to do a good job of thinking. In other words, his chances of successful solution (as the teacher counts success) are lessened in the degree that the boy feels opposition and rebellion.

Coercion gives less promise of success

"Second, the satisfaction that results from successful problem solving (supposing he does succeed) is likely the smaller, both on account of the lack of readiness for the necessary effort because of his opposition to the coercion, and also by reason of the overshadowing feeling of satisfaction that he has at length escaped coercion.

Less satisfaction

"Third, since the satisfaction is small there is small learning. The law of Effect[1] must play its part. There may even have been built up a growing distaste for the whole subject of mathematics. If so this is merely the negative side of the same law."

Less learning

"Do you mean that the annoyance of the whole proceeding may disgust him with mathematics? It isn't the mathematics that is at fault, it was his own previous idleness or lack of attention to duty. Won't the annoyance thus serve to keep him from being idle again? Why do you pick out the mathematics to suffer?"

Aversion may result

"It all depends upon the boy's own reaction. If he lays the blame on his idleness, he will less likely be idle next time. If he blames the teacher and the dryness of mathematics, then he may build an aversion to both. Which he will likely blame, you know as well as I; but the law of Effect will work in any case."

"Do you conclude that coercion has no place in school?"

"No, I wouldn't say that. I think it has a place. But I would say that if my coercion is of such kind as to arouse a strong feeling of active resentment, then I

The place of coercion

[1] As we saw in the November issue: When any response is made, the tendency so to respond is strengthened or weakened according as the response is attended by satisfaction (success) or annoyance (failure). If this is continued often enough and consistently enough, an effective habit or aversion is in time built. The stronger the satisfaction or annoyance the sooner is the habit or aversion built.

need look for little useful learning to result directly, and there are other possible results to be positively feared. If at any particular time teaching is my aim I must at that time either avoid coercion or I must so use it as not to arouse the contrary set that spoiled, as we have just seen, the most of John's learning."

"But haven't we heard of children who practised piano playing under coercion and later came to love their playing? What about them? And what about holding up standards? Isn't that necessary and isn't it coercion?"

"Those are questions that we must face, but we'll have to postpone them to next time."

(To be continued)

AN EXPERIMENT IN COÖPERATION

V. Classroom Technique in Composition

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Once a general policy as to the work in composition had been laid out, the task before us became that of developing an effective classroom technique. This required, to a degree, the breaking of new ground, although much guidance was to be had from the books of reference mentioned in the outline course of study which had been prepared by a committee and printed for distribution by one of the school presses, as was related in the article next preceding this one. Books alone cannot, however, work a reform; personal contacts are indispensable. And so it proved in this case. School conferences, followed by much visiting from room to room, were necessary to turn the trick.

What may happen when too much dependence is placed on the printed word comes out clearly in an incident which occurred outside of the group of schools constituting the English centers. A teacher in the eighth grade, following as she believed the plan of procedure advised by Mr. Sheridan, held her pupils for six weeks strictly to the rule of "three grammatical sentences," no more, no less. Then she flew the signal of distress, complaining that the children's speeches were halting, stilted, and uninteresting.

It developed, however, that a boy who had appeared more inhibited than the others really had a capital story to tell about an exciting experience through which he had passed while spending some months with his uncle on a ranch in the West. The class was asked to select the most important part of the speaker's composition and settled at once upon the sentence referring to the charge of a wild bull. The pupils were encouraged to ask questions and they soon elicited numerous valuable details, even to the shrill whistle which had successfully summoned aid and which was finally reproduced, to the general satisfaction of the class and the surprise of the neighbors. At last the boy stepped to the front of the room and in a series of terse and forceful sentences told a short but really thrilling tale of adventure on the sagebrush plains. He did what the teacher had hoped for but did not

know how to get. She had made the attack too formal.

At the other pole were the practices of those who cherished the ideal of "freedom," which, being interpreted, means not rational control but merely childish babbling on. With this view all is well if only the pupil talks. When he pauses he should be encouraged to "tell us a little more," though what he is saying may have no semblance of beginning, middle, or end. This is the doctrine of "practice makes perfect" without the qualification of "judicious" to save it. Possibly some of the bores who speak in public but never know where to begin or when to quit could trace the beginnings of their style to those primary grades in which they had "freedom" of utterance.

Some children are undoubtedly shy when they enter school and are slow to respond when invited to speak. The solution lies, however, not in calling out rambling reproduction of stories or in temporary neglect, but in asking the child to tell *one* thing he does to help his mother or *one* thing his pet does. Such a request can be complied with, and it has the priceless value of tending directly to expression in complete sentences and to the development of the "sentence sense." Even pupils who are ready, confident, and fluent may well be stimulated in this way.

LIMITING THE SUBJECT

In any case the secret of starting children on the way toward speaking to the point in good, clean-cut sentences, as Sheridan and Mahoney have pointed out, lies in aiding them to select at first small and definite subjects or aspects of subjects. The following are good illustrations: When the members of a class in the second grade were asked to tell something of their recent experiences, one small girl responded, "Last Sunday we went to Lincoln Park. We saw a big snake. It was coiled up. It looked like a rug." In a similar situation another child in a third grade said, "Last night I had to go to the store for my mother. It was raining. But I didn't get wet. I had my mother's umbrella."

Let him who thinks such achievements as these on the part of little children of only average ability and limited linguistic background too commonplace to be worthy of notice ask himself whether speaking thus connectedly on a small subject and speaking in complete and separate periods is not likely to carry over helpfully into the recitations in the subjects other than English, and whether such a sense of form and sequence is not a good foundation for a more elaborate superstructure to be erected later.[1] At all events those who were engaged in the work of the centers became more and more convinced of it. For the tendency toward connected and more comprehensive answers became ever more marked in all classes. Monosyllabic replies and amorphous collections of run-on sentences were less and less in evidence. The small and definite subject was found to be the thing to begin with in any class, no matter what the grade, in which habits of good speaking had not yet been formed.

THE USE OF TITLES AND REVISION ON THE SPOT

As soon as possible, certainly by the beginning of the third grade, the pupils

[1] No one, of course, will fail to realize how much such small happenings meant to the children.

were encouraged to think of suitable titles for their compositions. The title tends to hold the speaker to his point—indeed, it helps him to know definitely what his point is. It helps the audience, moreover, both to listen thoughtfully and to make suggestions for the improvement of the speech. On one occasion a fourth grader chose for his title, "The Christmas Turkey." He began by saying, "I got up very early Christmas morning," and then proceeded to tell about the big turkey that was put into the oven to roast. When he had finished, his classmates hastened to inquire why he had mentioned his getting up so early, whereat he replied that he had wanted to see the turkey placed in the oven. "You should put that in," said they, and he did.

Such discussion of speeches and appropriate revision on the spot were found to be essential to improvement. As soon as the speaker had finished, the question was raised, "What did he try to do?" followed by, "Did he do it?" or "Could he do it better and if so, how?" By focussing attention on one main quality at a lesson, by a persistent follow-up from day to day, and by permitting speakers from time to time to say it again, taking advantage of the suggestions offered while they were fresh in mind, decided progress was made.

The process is not unlike that of the time-honored revision of written work, but it requires greater tact. Only the more courageous pupils should be put through the ordeal the first time or two. The procedure easily becomes formal, of course, and the teacher must be on guard against mere routine. Needless to say a quick ear for effects is required, and discriminating judgment as to the possibilities in each instance. The fact that so few teachers have had similar training themselves is a real handicap. Nevertheless the technique of oral revision can be learned—if there is guidance and encouragement at hand.

One of the chief problems of oral composition is that of finding your story. Learning what to say and what not to say became one of the main objectives of the children's work. For example, a boy in the third grade sought to tell about a picnic. He presented the usual string of commonplaces, to the effect that he rose in the morning, had his breakfast, went by wagon to the picnic grounds, had lunch and returned. "So nothing happened!" exclaimed the teacher. The boy stood crestfallen for a moment and then looked up with animation and said, "Oh, yes! We went fishing." Here was a lead. A judicious follow-up brought out the fact that the speaker's brother had seen his float go under, had boasted of the catch he was about to make, and had pulled hard on his line, only to land at last a large bundle of brown paper. Being advised by the class to call his story "The Fish We Didn't Catch," the pupil then told the incident without waste of words.

The same method elicited from a Polish boy in the fifth grade the following narrative: "Last night I bought the meat for supper. When the package was handed to me, I put it under my arm and started home. The package slipped out from under my arm and dropped to the walk. Before I could pick it up, a dog grabbed it and ran away with it. I had to buy another piece of meat. So last night the meat cost twice as much as it should have done. That dog must have thought that I was a millionaire." Many of the members of this class displayed a similar sense of

values and put in an interpretative touch which raised a plain narrative somewhat above the merely commonplace.

ATTENTION TO STYLE

The pupils were quick to recognize and condemn monotonous imitation of style. The attention of the members of a second grade was called to the fact that each speaker began his story like the one before him. Couldn't they avoid this? Assuredly they could. The next speaker took time to collect herself and then opened with a new pattern. Those who followed were obliged to do likewise or meet with adverse criticism.

In the upper grades attention was directed somewhat to the choice of the right word. "John *walked* through the door just now," remarked the teacher. "How else might he have come?" "Run, jumped, dashed, crept, sidled, backed, slid, bounced, or burst," cried the pupils. "Which of these words will best express the meaning?" continued the teacher, and so the discussion went on. With the purpose of the speaker as the chief criterion, rational decisions were rendered and the process of criticism made to seem both clear and sensible.

AS TO GRAMMAR

But what to do with grammar? Could English be called worthy which did not include instruction in the nature and functions of the "parts of speech," phrases, clauses, etc.?. The following incident will illustrate in part the answer that was made to these questions. After three or four speeches had been heard in a seventh grade class, one concerned with an automobile accident in the country was selected for study. The speaker had begun with the sentence, "One day we were going to the country, when it rained." "What was the important thing this boy had to tell?" asked the teacher. "How the rain made the road slippery and caused the accident," the pupils replied. "Very well, then, notice his first sentence. Can you improve it?" "Yes," they responded. "Put the important part in the important place and say, 'One day when we were going to the country, it rained.' " "You mean," said the teacher, "that you would put the principal idea in the principal clause and the subordinate idea in the subordinate clause." And thus a spade was called a spade and a grammatical concept was brought into a functional relation.

WRITING FOLLOWS SPEAKING

Following in the wake of the oral composition, the written composition gave little trouble. Knowing well what they wanted to write, the pupils had little trouble in writing it. Composition was regarded as primarily a process of thinking, and writing as a process of transcribing what has already been thought. Just as reading is at first mainly finding on the printed page the familiar words of spoken discourse, so writing, as far as children are concerned, is mainly a process of putting speech on paper.

In our experiment it was so defined. Writing was taken to mean merely the mechanical process of expressing speech in graphic form. At first and especially in the earlier grades only that which had first been spoken was written. This policy enabled the writer to give almost his whole mind to the new and difficult medium and the outcome was highly gratifying. Mistakes of any kind in mechanics became more and more exceptional. We were all convinced

that the royal road to good mechanics is through well-organized oral work as the foundation.

This seems to be particularly true of the so-called sentence sense. Those who have not seen the process are sometimes incredulous. One such said, "But how can you teach the sentence until you have writing, with the use of capitals and periods?" "Oh," replied one of the initiated, "when the pupils speak, you can hear periods dropping on the floor all about!" It does appear to be true that the sentence as a unit is much more easily apprehended in oral than in written composition. There is, moreover, the immediate reaction of the class, and social disapproval shows up the bad construction at once and emphatically.

Many will think the program which I have just sketched too simple. Why not fill the pupils' minds with literary stories and get long and beautiful compositions as a result? The answer is that you must have a good foundation before you build an ornate superstructure, and besides, telling beautiful stories which have been told to you is only a small part of an effective life. The work which I have attempted to describe was aimed at growth in power of expression in workaday situations and it succeeded. Stories have their place, however, in the language development of little children, as we at no time allowed ourselves to forget.

A REFRESHING SUMMER SCHOOL

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Summer school! Ordinarily the words connote a hot season of confinement within the halls of a "higher institution of learning," where distraught but ambitious teachers, already frayed to a frazzle, further deplete their powers by wildly pursuing four or five courses, sometimes more—usually lecture courses of the type made in Germany. They do it because the school authorities back home require it and they have a mistaken notion that such flagellation is immensely beneficial and is necessary for professional growth.

The teacher usually comes out of such an experience with a sense, perhaps, of having superficially "covered a lot of ground," and she may have got a smattering of information and a medley of new suggestions and tricks of the trade. But her energies have been dissipated rather than conserved. Mind and body have become exhausted. No really sound growth has taken place and no initiative remains for carrying into practice the new ideas she may have caught on the fly. When she returns to her school, she settles back into the same old rut, sadder but not much wiser for the experience. Next summer she goes and does likewise again.

The summer sessions of the Normal School at Hyannis, Massachusetts, however, are conceived and carried out in accordance with a sounder theory of the function of a teacher's vacation—the theory of *re-creation*. "Old Cape Cod" is justly famous as a summer playground of America and undoubtedly does the nation an invaluable service in this capacity. No one nowadays doubts the importance of true recreation among the essentials of the

balanced life. But to the teachers of Massachusetts and other states who have attended the summer sessions of the Cape Cod Normal School at Hyannis during the past twenty-three years, the Cape has afforded recreation in a deeper sense. For through the regenerating influence of this remarkable vacation school thousands of teachers have been made over in mind and spirit and renewed in courage to serve their state in the high vocation of training American citizens.

Beyond question, the location of the Hyannis summer school on one of the most delightful sections of the New England coast gives it an immense advantage. The cool ocean breezes playing across the Cape from day to day bring just enough fog and rain to set off the many days of perfect "Hyannis weather" that are strung like jewels across the summer months. But the features which really distinguish Hyannis from the general run of summer schools and give it character are not physical. They have their root in the philosophy of life and of education underlying the institution and in the spirit in which the work and play are organized and administered under the leadership of the principal, Mr. W. A. Baldwin.

Some of the radical ideas in the subsoil of the school are axioms often heard in educational discussion but seldom applied in school: Education is life. Life is growth. Life and growth require breathing—not only *in* but also *out*. They require both activity and rest, work and play. Growth is not explosion. It is a gradual evolution and takes time. Sound growth is conditioned by all sorts of weather, sunshine and rain and wind—a variety of experiences in favorable combinations.

And strange to say, Principal Baldwin insists that teachers are really only human beings who grow just like all the rest of us. Those who come to summer school are usually very ambitious, but they should not dissipate their energies in too many kinds of work and should undertake only so much work as can be well done with a certain amount of deliberate daily application for a reasonable period of time. Many and varied courses are offered at Hyannis every summer, under able instructors; but no student can possibly undertake more than two. For instead of the brief hurried lecture periods usually found, each class meets for a "double period" of an hour and a half every morning and requires two hours or more of outside preparation daily. These long periods enable instructor and students to accomplish far more than the usual brief periods and with a greater sense of satisfaction, because they give the time allowance necessary for real thinking. Since only two of these double periods can be scheduled in the forenoon, with an intermission for the daily chapel or morning exercises, and there are no afternoon classes, it is obvious why no student can undertake more than two courses in one summer session. Students usually find that a single course of this kind gives them all the work they can do well, if they are to take advantage of the many opportunities that the sessions always offer outside of class work.

Another conserving and unifying influence in each session of the school is the "watchword." For years it has been the practice of the principal to select a term which would express a prominent or fundamental idea in the educational thinking of the year and to propose this to the faculty and students as the watchword for the work and the play of the summer session.

One summer the watchword was "seeking after truth," again it was "democracy," and again "participation." In 1919, the summer after the war in Europe, it was "reconstruction," and addresses at morning exercises, the faculty meetings, and class work were all directed toward the consideration of educational readjustments necessitated by the war.

In 1920 the watchword was "Americanization." On the first day of the summer session Principal Baldwin explained the significance of the word for the nation and for the state of Massachusetts, where the overwhelming proportion of foreign-born population made Americanization the crying need. But the problem concerned the native-born as well, and was seen to be as broad as the nation, on the one hand, and as specific as the daily living of the individual citizen or the smallest child in school, on the other. Mr. Baldwin urged that students and instructors should tie up their thinking during the session with the great fundamental need suggested by the watchword.

From that hour "Americanization" became the center of interest around which all of the various activities of the session revolved, the problem which all sought to solve, the project which united all in a common effort. Every undertaking took color from the patriotic purpose of the whole community. At the daily assemblies, or morning exercises, which were always anticipated with interest as an essential event of each day, addresses and informal talks were given by members of the faculty, local ministers, and visiting educators on the manifold aspects of Americanization. The class work likewise was consciously directed toward discovering and showing how the various kinds of educational work may contribute to the making of better Americans.

The largest classes in the school dealt with the training of teachers for Americanization work among foreigners and were conducted by instructors from the State Department of Education as a part of its state-wide Americanization program. This work, of course, carried out directly the purpose of the watchword, in one of its aspects. To no less extent the courses in psychology, pedagogy, and special methods in the main branches of kindergarten, primary, and secondary education and supervision, each found new meanings and applications in the patriotic impulse, while a number of the courses treated institutions or procedures which are peculiar to American education and therefore definitely significant in Americanization. Among these were the junior high school, the continuation school, practical arts and evening schools, the project and problem methods, the socialized recitation, and that ingenious Yankee development, mental measurements. All of these were pointed constantly toward serving the peculiar needs of America in education at the present time. It is much to be able to say for the watchword of the session that it unified all of these varied interests.

Furthermore, Hyannis does not preach American and practice—German methods! To exemplify the underlying principle of the truly American type of school procedure, free and equal self activity and participation on the part of each individual, the classes were conducted in the most democratic fashion. The instructor eschewed the pedagogical despot imposing his own ideas or those of the learned authorities on the minds of his students. He chose rather to serve as a helpful leader seeking after truth along with his

students. Many of them were themselves teachers of great ability and wide experience, and, if effectively drawn out, each was capable of making some contribution to the thinking of the group. Hence the instructor, instead of delivering lectures on which the students took down voluminous notes, encouraged class discussion in which the experiences of the students were brought forward and interpreted in the light of the best educational thinking of the day. For we learn best not by experience alone nor by thinking alone, but by a continuous interplay of experience and thinking about that experience. Since most of the classes were purposely small, it was possible for each student to participate in his own way in this democratic sharing of ideas—and he was expected to do so. This procedure had the double advantage of requiring everyone to work out his own salvation and of enabling each to seek, with expert guidance and the help of many sympathetic minds, the solution of his own individual problems in Americanization.

From this it will be seen that the work of the school is so conducted as to take full advantage of the rich personal contacts and relationships which are among the most valuable experiences in such an institution. Among the students the percentage of graduates from colleges and normal schools is unusually high and there are always numbers of able and progressive teachers, principals, and superintendents from Massachusetts and the surrounding states present. Dr. John Dewey, at one time a member of the somewhat cosmopolitan summer faculty, said that he found the students here better equipped for the work he required than any class he had taught. Hyannis "is a real school" as the catalogue insists; but the aim of its work is not cramming of the mind—or the notebook—with a rehash of scrambled facts and ideas. It aims to promote deliberate purposeful thinking about practical educational problems of the day, and thus "to meet the needs of the teachers of an evolving Democracy."

Summer work conducted under such circumstances brings regeneration, growth, and social efficiency.

But the studies and classroom work make only half of a summer session at Hyannis. The other half is play. For in the Hyannis scheme of symmetrical living, work is deliberately balanced with educative recreation. Under the discerning leadership of the principal, students and faculty merge into one big beautiful family, living and growing together in helpful comradeship. Everywhere there is evidence of happy coöperation in intelligent service. This is what has come to be known as "the Hyannis spirit." In this spirit the classes seek earnestly to solve the problems of individuals and of the state and the nation in education. And in this spirit everybody joins freely in the enjoyment of the various forms of social recreation and outdoor sports, directed by the student committee on recreation. Sometimes the recreation grows directly out of the work, as in nature study walks, games and dancing, and dramatization. But instead of the majority sitting on the bleachers to watch a few players, as in the modern commercialized school and college athletics, everybody takes part in the kind of sport he most enjoys. Though hardly typical of American sport at the present time, this plan of recreation is distinctly the democratic plan and will prevail when American sport outgrows commercialism and becomes truly Americanized.

During the session of 1920 the influence of "Americanization," the watchword of the session, was quite as evident in the recreations as in the class work. Early in the first week the entire school was effectively organized for recreational activities. The method was very simple but particularly instructive. Each person made a list of the various activities in which he would like to join. These were tabulated by a student committee, elected for the purpose, and groups were formed for carrying on each kind of recreation. These groups elected their own leaders who should see to it that everyone could find ample arrangements and congenial companions for the enjoyment of his favorite recreation. By this democratic organization everyone was enabled to form enjoyable friendships with people of like interests and to get full benefit of the ideal location of Hyannis for outdoor pleasures.

At the Normal School Beach and elsewhere hundreds enjoyed the delightful waters of the "South Shore" every sunny afternoon. Everybody went swimming. Sailing parties and boating, both by day and by moonlight, also attracted great numbers. Groups of nature lovers on excursions or hikes discovered for themselves the flowers of the locality, such as the star-like Sabbatia and the wild orchids; they studied the birds, insects, and water creatures or admired the scenery which has made Cape Cod an artists' paradise. Beautiful secluded spots for quiet meditation were found by pensive individuals, while those more sociably inclined went on automobile trips to historic Plymouth of the Pilgrims, to Provincetown, to the government fisheries station at Woods Hole, or to other places of special interest. Everywhere cameras were in evidence as one of the best means of recording, for future enjoyment, the pleasures and associations of the day. Of course tennis, baseball, basket-ball, and other athletic games each brought out its quota of enthusiastic devotees, as in every summer school. They were in charge of special committees which arranged match games and tournaments.

Regular weekly socials were held by the whole school family besides many class picnics, beach parties, clam bakes, and other gatherings of smaller groups. They contributed largely to the enjoyment of the happy personal relationships of the summer. A few of these socials were held in-doors but the out-doors was preferred and especially the seashore, where frequent camp-fires in the evenings lit up circles of faces shining with the pleasures of singing and story-telling in the open.

The big weekly socials were under the direction of the faculty. A new committee took charge each week and enlisted the help of student leaders. These socials differed according to circumstances and the places where they were held. One, a big Fourth of July picnic, occurred on the seashore at the colony of tent-houses where many of the school people live during the summer sessions. Besides the usual games, folk-dancing, and supper on the beach, a beautiful little pageant of the Pilgrim story was enacted on the shore of Lewis Bay by the class in physical education. Other socials took place on the school campus, "under the willows," or inside the buildings. Ridiculous applications of mental measurements and psychic phenomena featured one, a minstrel show impromptu marked another. At each of these social gatherings new talent developed and new and delightful ways of having good times

together evolved. Everyone realized afresh in his own experience the immense value of play in education.

"This has been the most wonderful social experience of my life," exclaimed an enthusiastic teacher from Worcester, after one of the school socials. And she voiced the sentiments of hundreds who, through the socials at Hyannis, have got new light on how to live and how to make a school a center of social growth and progress. The only wonderful thing about the Hyannis social life is that it is absolutely free from anything like class distinctions. All participate. Actually to encounter such a condition in real life is, to many teachers, a refreshing experience, even in America.

Hyannis has power to rejuvenate those who catch her spirit because, having accepted the principle that education is growth and growth must come from within the organism, she lives by it. Activities prescribed according to preconceived notions of the faculty are replaced by those which spring from the actual needs felt by the students. It has always been the policy of Principal Baldwin to encourage all sorts of worthy undertakings which the students want in connection with the summer school, to urge each student and instructor to participate freely in such as he can carry on happily and effectively, and to link up the class work and the recreations naturally with these activities. Thus the so-called project method, now widely advocated in educational circles, has long prevailed at Hyannis. The "watchword" converts the whole session into one big project, each class finds its own projects, and each individual his. It is like electrifying street-car service. Instead of being dragged along by the teacher, the classes advance naturally and spontaneously by motive powers discovered within themselves. They have a sense of real value in the work they do because they see how it contributes directly to their needs.

Among the many projects carried out during the summer of 1920, four will serve as examples of different types of instruction through service performed in this way. First, a school paper, to which practically all members of the school family subscribed, enabled those interested in writing, especially the students in English, to get valuable experience in composition and to use their ability for a practical purpose. Second, a school concert, organized under the direction of the music department, brought together and exercised much musical talent for the pleasure of the whole school. Third, students who wished to express their gratitude for what Hyannis had done for them carried out a campaign to raise contributions for the Student Loan Fund, which helps worthy students to take the course in the Normal School. The campaign gave valuable experience in a type of organized effort much used nowadays, and by raising several hundred dollars served a worthy purpose in recruiting for the profession and making it possible for a number of young people to be trained for teaching. Fourth, a school pageant was composed and staged to give expression to the conception of Americanism which the summer's study of the subject had developed. The work was done chiefly through committees elected from the English, the music, and the physical education classes, but it was so arranged that the entire school was drawn into the actual presentation. The effectiveness of the pageant in uniting a community and expressing its ideals was only one of many lessons learned through this project.

Actual participation in school work carried on with the motive power such projects supply gives teachers a new joy in the service which they become assured they can render by tying up school work with life outside, and a new faith in the efficacy of teaching as a life work. That this joy and this faith are sadly needed in the teaching profession today is clearly attested by the recent withdrawal of thousands of teachers into more lucrative occupations. No doubt this hejira found its immediate occasion in low salaries, high costs, and war-time opportunities to perform services of undoubted usefulness elsewhere. But lack of faith in teaching itself as an effective way to spend one's life had more to do with it. For faith makes the difference between doleful drudgery and joyful service. Changing standards and a disquieting scrutiny into the aims, materials, and methods of education in recent years have helped to undermine both the confidence of the public, whence come the salaries, and the very faith of many conscientious teachers in the work of the schools. "Where there is no vision, the people perish." Until faith in the practical efficacy of teaching is restored, the profession will remain poorly supplied with devoted workers. To renew the teachers' faith in themselves and their great mission, summer by summer, is recognized as the inspiring project of the summer sessions at Hyannis.

"The education of the young child," writes Principal Baldwin, "means to us at Hyannis to encourage such activities each day as the best present development of the child demands." And summer students at Hyannis have learned that this is also his guiding principle for the education of those older children who come to his school summer by summer to be recreated. "Except ye become as a little child"—only to become a pupil and get the pupil's point of view is a kind of rebirth, but the means of growth also must be supplied. To this end the school seeks to do three things for its summer students: (1) it seeks to guide them in such thinking, and studying, as will be vital and helpful to them as thoughtful teachers; (2) it seeks to give them an opportunity for true recreation and to show them how to find and use such opportunities elsewhere; (3) it seeks, through the kind of life they lead there as serviceable members of a democratic school community, to make them better citizens in the great democracy. These are the things which "the best present development" of the children demands. To spend a summer at Hyannis means, all in all, to live fully for a season on a high plane.

A thoughtful Boston teacher has written recently, "Last summer I came to Hyannis for the first time, and I know now that my experiences there have done more toward making me a better American than any other single influence in my life." Hundreds of others will give the same testimony. Consider the influence exerted by all the thousands of teachers who have attended the Hyannis summer school during the past twenty-three years and have gone back better citizens themselves, to make better citizens for Massachusetts and for America. To paraphrase Dean Swift, "Whoever can make two good citizens grow where only one grew before deserves better of America and does more essential service to his country than the whole race of politicians put together." The Normal School at Hyannis is really the most serviceable means on the Cape for true recreation.

THE WORK OF THE BOSTON MILK EDUCATIONAL COMMITTEE AND THE NEW ENGLAND DAIRY AND FOOD COUNCIL

W. P. B. LOCKWOOD

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Our nation, with other nations of the world, when she found herself in a world war, began to question how she was to feed her armies and her people at home so as to keep them in good health. She had already told us that in 1912 about five per cent of the children in American schools were more than seven per cent below the accepted averages of height and weight for their age. This number was rapidly increasing during the years from 1912 to 1918 and 1920, when from twenty-five per cent to thirty-three per cent of the school children of the United States fell below this accepted average of physical development and health condition. During these same years Dr. E. V. McCollum of the Johns Hopkins University brought before scientific people the results of intensive experiments and studies showing that certain foods promoted growth and health, thus acting as protective foods.

He has proved beyond doubt that butter fat contains growth substances not found in other food fats except egg yolk, that a second essential substance for maintenance of health is found in all natural foodstuffs, and that the addition of certain leaves and seeds of plants produces great improvement in development and health. He says that as the result of very numerous trials he has become convinced that there are two lines of procedure by means of which satisfactory diets can be made up. These diets are formed by the combination of those parts of the plants which are storage organs, with liberal amounts of the leaf of the plant or by use of such mixtures along with milk or egg; milk is better than egg.

To help bring this message of Dr. McCollum's before the public the Boston Milk Campaign Committee of trained workers, coöperating with the Massachusetts State Department of Health, Boston Department of Health, Massachusetts Agricultural College, Federal and State Department of Agriculture, Boston Dietetic Bureau, Boston Chapter of the American Red Cross and other agencies, began its work three years ago.

The influence of this undertaking was felt in a permanent increase in the use of milk in establishments where talks, posters, and literature had been given. One large company, realizing the need of the use of more milk by its workers, gave a ten ounce glass instead of an eight ounce one and reduced the cost from four to two cents per glass. The company reported a one hundred per cent increase in sales during the year. The active efforts of the committee ceased, however, on account of lack of permanent organization and financial support. The results of the work already done showed the advisability of more work in Boston with the possibility of extending the enterprise to other New England cities and possibly to the country and town schools.

In June, 1920, a group of interested people met to start the organization to functioning in a more general and larger way and on a permanent basis. The result was the organization of the New England Dairy and Food Council, working through the Boston Milk Educational Committee, formerly the Boston Milk Campaign, the purposes of which are as follows:

A. To collect and disseminate information relative to the food value, health value, and economy in the use of milk and dairy products and other food products.

B. To collect and disseminate information concerning the production, distribution, and consumption of milk and dairy products and other food products.

How can this be done? First, it is essential to reach the children and, through them, the parents; and second, it is also essential to reach the mother, father, home keeper, or young man or woman directly.

To reach the children entails two objects: first, to impress the child that there is happiness and success in health and that health, first of all, means supplying the body with material for its growth, repair, and fuel to keep it in running order.

As stories never fail to interest children, it again becomes an effective method of teaching the rules of the health game to impress upon small children what milk will do for them and to show older boys and girls that it is reasonable and logical to supply the body with the right material if we expect a normal, healthy body. The New England Dairy and Food Council has such stories for use called "The Quest for the Fountain of Health," "The Milk Fairies," and "The Milk Way Is the Health Way."

"The Quest for the Fountain of Health" is illustrated by colored pictures or colored lantern slides. This story tells us about Peggy and Paul, a girl and boy of ten or twelve years of age, who are very unhappy because of the lack of robust health. So they both start out to seek for the Fountain of Health. The robins whom they meet by the roadside are taking their morning baths, and drinking plenty of clean, cold water. Next, they meet the good Mother Hen with her Chicks, who are eating bread and milk. They find Tabby Cat washing her face and paws before eating her mid-morning lunch of milk, and Sport, a collie dog, is taking his exercise out of doors. He invites the children to the Food Pageant. There Peggy and Paul become acquainted with Captain Milk, who leads the group of muscle-building foods, and with Captain Milk, leader of the energy foods, bone and tooth-building foods, and also leader of the growth and health foods. But, not satisfied with what all these friends have told them, the children go on. Later, they meet Wise Old Owl, who advises them to rest and watches over them until they are ready to go on. Next they meet Bossy Calf, who feels very sure that the Fountain of Health is her Mother. She sends them across the green field where they are greeted by Buttercup, The COW, the Foster-Mother of all the world, with these words:

> Welcome, little boy and girl,
> I'm glad you've come to me,
> For I can tell, you need my help
> If strong you want to be.
>
> The many friends you've found today
> Have done their very best
> To help you on the road to health,
> But you must do the rest.

The second story, which never fails to interest the smaller children, is the "Milk Fairy Story." The little school boy and school girl enjoy hearing about Johnnie who does not like milk. One day, exhausted by playing soldier with his boy friends, his

mother sends him out to lie down in the shade to rest and to cool off while she prepares his dinner. Then, as he drops off to sleep, the tree nearby turns into a large bottle of milk and fairies come to him, each represented by dolls attractively dressed, who bear the names of Sugar, Fat, Captain Protein, Mineral Twins, Water, and the Magic Twins or Vitamines. Each in turn tells Johnnie his name and what he will do for him if he will only drink milk. Then as Johnnie awakes from his dream, he is called in to dinner and his reward for asking for milk and telling his mother of his dream is a very surprised and happy mother, who is delighted that her boy is going to drink milk.

The third story, "The Milk Way Is the Health Way," used for older boys and girls, is illustrated by charts or lantern slides. The boys and girls are told that their bodies are human machines and need food for construction, repair, and fuel for running. The lesson teaches that certain foods supply material for muscles and flesh, others for teeth and bones, others keep the body warm and create energy, while still others promote growth and health. Growth foods are essential, as each boy and girl realizes when he reads the charts showing the number of pounds that should be gained yearly at different ages. Milk, the All-Round Food, plays its important part with vegetables, fruits, starchy, sugar, and fat foods and protein foods. Another way of measuring the value of milk with other foods is by graphic illustrations of the calorific returns of milk compared with coffee, also by the picture "A Race for Life," two boys starting the day with their breakfasts, one of coffee and bread and butter; the other, a dish of cereal and a glass of milk. The drawings show most clearly which boy is the winner. "The Two Dogs," showing the difference in growth of the one fed wisely and the other fed unwisely, never ceases to tell its lesson. Thus the message comes home that "our bodies are made from the foods we eat. What kind of a body do you want?"

The second means of spreading the word of the food value, health value, and economy in the use of milk and dairy products is to reach young men and women, mothers, fathers, and home keepers directly. This message tells of the body construction, muscles, bone, alimentary canal and its process of handling food; then, the part that the protein foods, energy foods, mineral foods, and health promoting foods play in the repair and upkeep of our bodies. Dr. Howe, of the Forsyth Dental Infirmary, Boston, has added greatly to this message by giving us the use of a set of lantern slides, telling of his experiments which show the effects of foods on the teeth and bone structure of the body. Then, too, it is of interest to many money spenders to know that certain foods give greater return in nourishment for the same amount of money. This is shown by the New York A. I. C. P. charts and pictures comparing milk and cheese with other foods, the best division of five dollars spent in food for a good return in health, and again by the comparison of nourishment in clear soup, with a stew of meat and vegetables and a milk soup. Through these pictures there is proof that one should understand the importance of certain foods; that milk plays a very prominent part and surpasses in its power any other one food; that old and young should eat more milk because it is palatable, easily digested, and all parts are used by the body. It is a good

Foods which contain Vitamines, MILK, EGGS and GREEN VEGETABLES
Children in play, "The Quest for the Fountain of Health"

muscle builder, and energy and growth-giving food, and a good tooth and bone builder.

In addition to interest in these stories and messages, a great deal of interest is always shown by young and old in the lantern pictures on the care of the cows, improved farm conditions, the care and handling of milk by the producer, dealer, and consumer, and the methods of delivery in different countries.

It is worth while to note that in many of the schools the talks are followed up by similar lessons in language, hygiene, and drawing of posters and charts. There is a stimulation among the children to purchase milk in the schools where it is sold. It is a well-known fact that children like to do what they see others doing. Reports are given of children who never liked milk and had learned to like it because their playmates had milk to drink at school. One teacher reported that where fifteen bottles of milk were sold at first the number soon increased to sixty. Teachers likewise report that the school work of the last part of the morning is made easier, as the children do not show signs of fatigue. The talks influenced many principals and teachers to decide to serve milk in their schools, as they realized the value of educational food work and the need of milk as a food for growing children.

There are also two mechanical exhibits which tell their own story. The milk bottle exhibit, telling briefly the story of milk coming from the cow to the consumer, is attractively presented through colored pictures. The mechanical cow exhibit tells that the cow is an economical producer of human food, taking food that people cannot eat and making it into milk which

is used as milk, butter, cheese, or ice cream. This exhibit moves:

1. The Cow puts her head down in the manger, then raises it.
2. She chews all the time.
3. Milk is represented as coming from the teats.
4. Milk is represented as flowing from pail to factory.
5. There is a continuous procession of products, milk, butter, ice cream, etc., from factory to American homes.
6. There is a continuous procession of people going from their homes to work.
7. The Milk Story is told on a roll 56 inches long.

Still another means of teaching the milk story is by the pageants, "The Milk Fairy Play" and "The Quest for the Fountain of Health," given by children at the summer playgrounds, open air schools, and at fairs. These plays aim to teach children and parents the health value of milk and its important place in the diets of all people. Costumes for these plays are gladly furnished by this organization.

Such statements as the following are coming to our attention very frequently. A mother made the following remark: "My child never liked milk and would not drink it until it was served in the schools. She now drinks a good quantity and is doing better work at school."

One mother came to the office for a sample set of literature. She was very much interested—said her child had brought home some splendid leaflets on milk. Mothers wondered why other schools in their town were not distributing the literature.

A principal writes: "Last year, the literature you sent me was a great spur to the homes. The reason I am ordering so liberally is because I wish to send something into every home about once in two months this year."

Such testimony of our work makes us feel that we are of real service to the schools and the community in making children and adults realize that certain foods do promote growth and health, protect the body, and that the selection and use of these foods help to build sound bodies and minds—both essentials for the foundation of success and happiness in life.

THE PROJECT METHOD AS APPLIED TO PRIMARY ARITHMETIC

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If one uses the project method in teaching, there must be activities "going on" in the schoolroom and they should be of such a nature that they are the expressions of the children's interests guided by the teacher and leading to a definite end. I say "guided" because one would not let an activitiy that is not educative be found in school even if it is the expression of the children's interests. The teacher will offer abundant opportunities for the development of the native capacities of the children along the lines of greatest growth. She will also create such an atmosphere that the children themselves will suggest activities in which they wish to engage, and here again her ability to guide in proper fields of activity will be taxed. She will be able to help the children select the best activities—those making for the greatest growth and development. In this kind of teaching—based upon project work—the children and teacher are living together and planning activities as groups of people do outside of school. The pupils are living in a democratic group (their class) and are learning to meet real situations right in school—just as they do in their home life and later in the larger groups of community, state, and nation.

This article is chiefly concerned with the application of this kind of work to one important part of a curriculum, namely, arithmetic. There are several ways in which the idea may be applied, but here we will consider only two of them: first, where arithmetic is a necessary part in the working out of a project and, second, where the arithmetic work itself takes the form of a project.

Let us first consider a number of purposeful activities which may occur in the primary grades and see how arithmetic played a necessary and important part in their development.

ACTIVITY I.

Situation—A second-grade class are interested in getting up a concert to which they wish to invite the first grade.

Planning and Executing	Subject Involved
a. Discussion of what will be done at the concert. (This includes songs, stories, etc.)	*Language*
b. Singing over songs, choosing those which they think the company will enjoy.	*Music*
c. Deciding what whole class, choruses, quartets, or soloists will sing.	
d. Deciding that programs are needed and making them out.	*Language*
e. Proposal to make programs for all; discussion of style, size, etc.; deciding upon style of cover.	*Drawing*
f. Making of several sample covers (volunteer individual work); choosing of the final cover; discussion of method of reproducing it; all making from dictated directions the final rectangle (shape and pattern of cover); planning size of inside sheet, etc.; making this by following dictated directions, similar to those above.	*Handwork* / *Arithmetic*

g. Making cover design. *Drawing*

h. Finding need for material to fasten cover and inside sheet together; discussion of suitable and inexpensive materials; hearing reports of groups who have tried out one kind of material and various ways of tying same; choosing the least expensive and yet attractive kind. *Language* *Arithmetic*

i. All figuring number of yards of material needed for 75 programs; (possibly deciding number of spools needed); planning method of cutting material so as to save waste; cutting. *Arithmetic*

j. Writing programs. *Writing*

k. Putting programs together and tying them. *Handwork*

l. Concert. *Music*

ACTIVITY II.

Situation.—The children of the first grade wish to save money to buy thrift stamps.

Planning and Executing	Subject Involved
a. Discussion about cost of one stamp; place where one buys stamps; what a child needs to do when he goes to office for one; where his money goes and when he gets it back.	*Arithmetic* *Language*
b. Study of thrift stamp book combinations and sums which make a quarter; individuals bringing money saved and class helping each to see how much more he must save before he can buy a stamp. Continued study of book, counting number of stamps to be bought before one can have book filled.	*Arithmetic*

ACTIVITY III.

Situation.—A third grade wish to have a garden. (Outline here presupposes situation where there are many gardens planned by a supervisor. A plot with plans for individual beds is given to the teacher.)

Planning and Executing	Subject Involved
a. Deciding, as a class, upon the kind of a garden; choosing of kind of seeds for individual beds.	*Language*
b. Watching man plow and harrow the garden; study of the reasons for this.	*Nature*
c. Laying out the boundaries of the big garden, the paths and individual plots.	*Arithmetic*
d. Laying out on schoolroom floor a diagram of the size of the individual bed, *i. e.* 8′ x 4′; measuring string to mark off same in garden; finding number of rows possible for planting, number of stakes needed for all rows; measuring and cutting twine for same. Winding string around stakes ready for garden use. (The rest of the activity—planting, care of garden, etc. is omitted in this account as enough has been suggested to show how arithmetic necessarily came into the project.)	*Arithmetic*

ACTIVITY IV.

Situation.—A fourth grade class wish to have a picnic after school some Friday in June.

Planning and Executing	Subject Involved
a. Deciding when and where to go.	*Language*
b. Planning how lunch is to be carried so that each can do his share; decision to let each take his supper and all help plan a class treat.	
c. Finding cost of most popular treats suggested, *e. g.*, ice cream, lemonade, peanuts,	*Arithmetic*

etc.; deciding reasonable amount to assess each member; discussion of possible guests and added assessment thereby incurred; deciding upon one treat within cost of what class wishes to pay.

d. Choosing committee to order amount of cream decided upon and selecting another group to collect assessments from children and turn over same to chairman of "ice cream committee"; decision to have all other class members divide themselves into groups for serving cream and gathering up plates. *Language*

e. Collecting dues and paying bills. *Arithmetic*

f. Picnic.

These simple but interesting projects show occasions of wholehearted and purposeful activities which consequently have been educative. Let us consider their results in knowledge gained in the field of arithmetic.

ACTIVITY I.

Arithmetic facts learned: inch and half inch; using both in construction; adding and subtracting without reduction; multiplication of small numbers; measuring, using feet and yards.

ACTIVITY II.

Arithmetic facts learned[1]: counting by ones to twenty-five, by fours to twenty, and by fives to twenty-five; learning combinations of twenty-five, *e. g.*—two dimes and one nickel, five nickels, two dimes and five pennies; adding to any sum below twenty-five enough to make twenty-five.

ACTIVITY III.

Arithmetic facts learned: measuring, using feet and yards; finding perimeter; changing inches to feet and feet to yards; multiplication table (probably of six, since it takes six inches to go around a common garden stake).

ACTIVITY IV.

Arithmetic facts learned: multiplication of numbers of two and three figures without reduction; subtraction, addition, and division with and without reduction; use of pounds, quarts, gallons, and dozen, with fractions of each.

Two chief attainments in arithmetic which life requires of most of us are accuracy and speed. We very readily see that the first skill is necessarily an aim and achievement on the part of the members planning these activities. Accuracy was essential to their judging of what courses to take, *e. g.*, what treat to buy, what length of string was needed, what number of pennies, nickels, or dimes was needed before one could get another thrift stamp, etc. As far as these projects are concerned, the children's attitude and interest are such that they will use what accuracy and speed they can in their work, but not sufficient practice in any one kind of activity is *here* given to insure speed. One fundamental element to be kept in mind is the fact that a multitude of preceding and succeeding projects and games carefully planned will accomplish this. Drill work itself may take the form of a purposeful activity or project.

We have already seen a few instances of projects involving necessary and valuable arithmetic work along with other subjects, and now let us consider some which are almost entirely arithmetic activities.

[1] Note. Some of the very quickest ones will learn these facts (after much repetition), but most will only be able to give combinations, etc., with use of coins.

ACTIVITY I.

Situation.—A third grade wishes to make cards for second-grade seat work.

Brief description.—Discussion of kinds of cards to be made and consultation with teacher of second grade to see if certain cards would be suitable. Planning kinds of examples.

Facts involved.—Construction of cards (x inches long and x inches wide); review facts in addition or subtraction.

ACTIVITY II.

Situation.—A fourth grade wishes to keep weekly individual records of gain in speed of silent reading (as shown by tests given by teacher).

Brief description.—Discussion of kinds of records, decision as to kind to be used; keeping records; figuring individual gains; comparing gains as individuals and as groups.

Facts involved.—Construction of individual record sheets (using small fractions of inches); rapid counting; addition and subtraction with and without reduction.

ACTIVITY III.

Situation.—A first grade wishes to play circle bean bag (like regular game only two circles of varying sizes drawn on the floor are used instead of the bean bag board).

Brief description.—Explanation of game; choosing of sides; keeping of score by official score keeper and then by all.

Facts involved.—Making figures (one to ten); adding all combinations whose sum is not greater than ten.

ACTIVITY IV.

Situation.—A second grade wants to learn to tell time so that each one may know when to get ready for recess or gymnasium or when to get milk for the lunches.

Brief description.—Reading Roman numerals, telling hours, etc.

Facts involved.—Reading Roman numerals; number of hours in a day, minutes in an hour, etc.; telling hours, half hours, quarter hours, minutes.

These activities were wholehearted, purposeful ones in which children felt the "inner urge" to engage, and in each case there was a definite end in mind. There were opportunities for developing accuracy and speed as in other projects. Moreover, in the eight projects briefly outlined, much interest and consequent effort would be apparent. The children love to "plan things," make things or play games, and as we have seen, each of these centers of interest necessitated the learning of important facts of arithmetic or the review of them.

And so we see that these projects have really been occasions of group activities such as we find all through our lives. The children worked together and played as they do out of school. In the course of these projects they learned through experience with quantities many arithmetical facts. Aside from these primary facts there were many other elements in their growth, *e. g.*, greater power of initiative, of judging values, of organizing themselves, of solving vital problems which one may meet every day (and so carry knowledge outside of school), greater satisfaction in helping others, thoughtfulness for the needs of others, etc. The intelligent teacher will often and regularly check up results to see what she is accomplishing and how economically she is doing it.

To some it may seem that all this makes for a rather "wishy-washy" kind of arithmetic, but practical experience proves quite the contrary. As Dr. Kilpatrick said the other day, we have "better arithmetic and a living child."

THE CLEARING HOUSE

EDUCATION AS "ACTIVITY LEADING TO FURTHER ACTIVITY"

In the spring of 1921 it was decided to devote the first hour every morning, in a second and third grade classroom in a public school system, to a period of self-initiated activity with a view to comparing the efficacy of such an informal procedure with the prescribed routine of the previous formal daily program. Such experimentation resulted from the conception of education as preparation of the child, through the medium of actual experiences, for an active and intelligent part in a democracy. Believing that knowledge acquired through personal experiences is of greater immediate value and permanency than subject matter administered from an adult point of view, we attempted to unify the curriculum with the life of the child and to psychologize the subject matter involved. Realizing, too, that children learn more readily and intelligently, and require less repetition in learning when individual interest and curiosity are aroused without the exertion of effort, we stressed constructive work and play over subject matter as such.

Needless to say, in order that conditions might be provided suggestive of expressing life situations, some seemingly radical external changes in the classroom were essential. The seats and desks were unscrewed and arranged in horseshoe formation to provide more available space for work and play. All nutritive materials and equipment that might serve as occupational and constructive incentives, or stimuli offering new experiences, were taken from cupboards and high shelves and placed within ready sight and easy reach of the children. We searched for materials that suggested group participation rather than individual activity. Physical apparatus such as balance beams, slides, and trapezes were installed or borrowed from the kindergarten. The influence of environment was shown when a dark cloakroom was transformed into a cozy library. No new reading material was introduced, but the sudden interest in reading was quite amusing. In short, the children were encouraged, through the provision of normal outlets, to make fruitful use of the energies that were purely distressing in the formal classroom.

The first hour in the morning seemed the most logical time in the daily program for such a period, as the child, bringing his plans from home, is then at the height of his interest and enthusiasm. Short periods of self-elected work preceded the actual introduction of the experiment in order that the transition from the relatively formal to the less formal procedure be gradual and natural. Nevertheless, when the children were told that an hour each day was to be devoted to "noisy work time" (as distinguished from quiet occupational seat work) their joy was unbounded. They were given complete freedom in their choice of classroom materials and were told that they could talk or move about as they wished—the only stipulation being that they were not to annoy or interfere with the rights of others. We suggested also that they occupy their time with something both purposeful and worth while. The results of the experiment were most gratifying. We soon discovered that the remainder of the daily program must be more flexible, as the morning hour invariably furnished the key-note to the vital interests of the children, and the entire day's work might therefore profitably hinge around these life interests. Situations frequently arose which necessitated the urgent and immediate acquiring of formal subject matter. It is quite true that certain interests occupied so much time and attention that other interests

of equal importance were necessarily omitted. But is it not better to carry one line of interest and effort as near completion as possible, and have the children experience the satisfaction of accomplishment, than to scatter the attention through the attempt to follow various interests in dutiful adherence to ten and fifteen minute periods according to time schedule? Accurate daily records for each child were kept throughout the entire experiment that he might judge for himself whether or not he had made the best use of his time.

This particular phase of work offers a wealth of opportunity for the development of the individual child's character. Many times over we noted the following moral qualities expressed: unselfishness, self-control, helpfulness, patience, consideration, respect, and courtesy. Growth was manifested by their increased intellectual curiosity and their capacity for sustained interest. They experienced the sense of achievement resulting from their ability to initiate and carry out projects to self-determined ends. They learned to appreciate the rights of others, to coöperate intelligently, and to discriminate. The children became more skilled in the use of materials because they could experiment individually in their manipulation. Each member of this miniature democracy was cognizant of the fact that he had equal rights with the other members; for did he not have the privilege, if dissatisfied with the work in a certain group, to start out for himself? And could he not place his grievances before the justice of the entire community in the "town meeting"? These get-together meetings at the close of the morning hour served as a check upon each individual, for then he was held responsible (through an oral report to his classmates) for his actions and the worth of his choice of work. It was in this gathering that he was guided in learning to give and take constructive criticism. The making and discussing of plans at this time afforded the teacher excellent opportunities of guiding, of helping to improve the oral language of the children, and of stimulating their interest to further activity. The achievement of democratic motivation was evidenced in the development of independence, the unfoldment of originality, and the evolution of leadership (through the power of self and group direction).

Perhaps the most valuable result of the entire experiment was the teacher's awakening interest in child study, her appreciation of the significance of the child's ever-present interests and capacities, her respect for his individuality, and her realization of the infinite possibilities of the informally organized classroom.

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HOME LIFE IN LOUISVILLE IN 1800 AND 1921—HEATING, LIGHTING AND VENTILATION

While studying the history of Louisville, a class of 3A children was encouraged to ask any questions they wished about the people who first settled the city. Many questions arose, among them the following: "How did the pioneers keep their cabins warm?" "If there were no matches, how did they start their fires?" "How did they see to get home?" "How did they light their cabins?"

These questions were used as a basis for science work and provided excellent opportunities for both oral and written English, reading, and spelling. Our work was outlined under three heads: (*a*) how the pioneers heated their cabins; (*b*) how the cabins were ventilated; (*c*) how they were lighted. Under heating we studied (*a*) the kinds of fuel burned, (*b*) how to build a fire, (*c*) what a fire needs to make it burn, and (*d*) how fireplaces, stoves, grates and furnaces keep us warm. We compared the present with pioneer times and found out some of the inconveniences our ancestors experienced in meeting their needs.

Experiment.—The children built a fire as the pioneers did. They struck arrowheads together. The friction made sparks, which fell upon the straw and caused it to burn. The effort required in making sparks showed the children how much harder it was to start a fire in this way than to use a match.

A written language lesson followed the discussion of this experiment.

Example.—"One of the boys brought some dry grass. Another child brought two arrowheads. The arrowheads were made of flint. Flint is a very hard stone. We struck the pieces of flint together and made sparks. The sparks fell on the dry grass and it began to burn. This is the way the pioneers started their fires."

The children then attempted to build a fire in a sand pan. They brought paper and small pieces of kindling from home. The sticks and paper were placed close to the bottom of the pan, leaving no place for air. They touched a match to the paper, but the wood did not burn. They wondered why. One member of the class said the fire would not burn because it had no air. I told them there was a way we could find out if this were true. We made an experiment by putting a lighted candle into a closed box. All air was shut out and the candle did not burn. When the holes were opened so the air could get in, the candle burned all right. This established the fact that a candle needs air in order to burn.

Conclusion.—If a candle needs air to make it burn, a fire needs air for the same reason.

The children drew a diagram of the box on the board and wrote a paragraph describing the experiment. The written work was preceded by oral and board work.

Language.—"To-day we built a fire in the sand pan. We laid the paper flat, put our sticks side by side upon the paper and lit it. Our fire did not burn. We wondered what was the matter."

After the experiment described above, the children wrote the following:

"Miss Burks brought a chalk box which had a hole in the top and in each side. There was a glass door to the box. There was a candle inside the box. Miss Burks put corks into the holes, lit the candle and closed the door. The candle went out. She took out one cork and lit the candle again. It went out. When she took out all the corks, the candle burned. That was because it had air."

After making the experiment to show that a candle needs air to make it burn, the following paragraph was developed:

"Yesterday we found out that a candle needs air to make it burn. We built another fire in the sand pan. We crumpled the paper and laid the sticks across each other, so that the air could get underneath. This time the fire burned all right. The pioneers put their logs upon andirons so that the fire could have air to make it burn."

At this point a trip was made to the engine room so that the class could see how the furnace worked and compare our elaborate heating system with the simple one of early days. This part of the work was summarized in an oral language lesson. Temperature was studied in connection with the heating. This necessitated learning to read the thermometer, and finding the effect of heat and cold upon the mercury.

Experiment.—We dipped the thermometer into hot water and the mercury quickly rose to the top of the tube. We then dipped it into ice cold water and the mercury went down into the little ball. The thermometer was put out doors and then brought into the warm schoolroom. The same thing happened. The warm air made the mercury rise, the cold air made it drop.

This question was put to the class: "Why do we need a thermometer in the room?" and several children answered, "To know when the room is too hot or when it is too cold."

Oral and Written Language.—"We dipped

our thermometer into hot water. I could see the mercury going up. We put the thermometer into ice cold water. The mercury went down into the little ball. The warm air makes the mercury go up, and the cold air makes it fall. We need a thermometer in the room so that we can tell whether the air is too warm, or too cold, or just right. Mr. Brown told us that the temperature ought to be 68 or 70 degrees."

Ventilation was next studied under two heads: the need for ventilation and the dangers if neglected. The need for ventilation was illustrated by the story (Pages 4-6-8) in *Good Health*, by Jewett. The children read these stories silently, discussed them, and told them to the other groups.

In order to show that breathing sends something into the air, a simple experiment was performed. Lime water was put into a perfectly clean bottle. The children saw that the water was clear. A child breathed into the bottle through a tube and the lime water became cloudy. From this experiment the children concluded that we breathed something into the air which was impure. Impure air ought to be purified. The next question was, "How is this to be done?" It is to be done by ventilating our rooms well.

Written Language.—"When we breathe, the air in the room becomes impure. When the air in the room is bad, it makes us sleepy and we do not want to work. We can make it pure by letting the fresh air in."

Some of the children also wrote a short paragraph describing the experiment of breathing into lime water.

In order to create a sentiment against sleeping with closed windows, one of the student teachers made a chart which was divided by a line into two columns. At the top of one column there was a cut-out window, with real curtains blowing in. Over this column were these words, "Come in, the Air is fine." At the top of the other column was a picture of a closed window. The names of the children who slept with open windows were written in the first column, and the names of those who did not were placed in the Closed Window column, until they could honestly say they were sleeping with open windows. The names were then transferred from the Closed Window column to the Open Window column.

In answer to their questions about lighting, the children found out how the pioneers lighted their cabins by reading Pages 124-125 in *Pioneer Life*. The answer to the question, "How do they see to get home?" was found on Pages 18-19 in *Polly the Pioneer*. They then compared lighting in pioneer times with lighting at the present time, and the advantages and disadvantages of each. They modelled crude lamps and made dipped candles. Before making the candles they read and discussed the story, "Candle-Making at the Coolidges" in *Everyday Life in the Colonies*. They then wrote a letter to some friend or relative, telling how they made the candles. This is one of the letters:

Dear Mother:

To-day we made some candles like the pioneers' candles. Our teacher melted paraffin. We cut pieces of heavy cord about four inches long. We looped this over a pencil and twisted it. We dipped the cord into the hot paraffin, lifted it out and let it cool. We did this until our candles were about as big as Christmas candles. The pioneers made their candles this way.

Your loving son,
JOHN.

The care of the eye was studied as a part of the lesson on lighting. It was discussed from the standpoint of, "Which is the best light—candle, gas, or electric light?" "How should the light strike the paper?" "How can we keep the eye well?" Each unit of work was summarized by a written lesson, previously developed in class.

ELIZABETH BRECKENRIDGE,
Louisville, Ky.

AS REPORTED

PROGRAM OF THE SECOND ANNUAL MEETING OF THE NATIONAL CONFERENCE

Two sessions of the National Conference on Educational Method will be held in Chicago during the meeting of the Department of Superintendence. The first will convene in the Pine Room of the Stratford Hotel on Tuesday afternoon, February 28, at two o'clock and the second in Fullerton Hall of the Art Institute at nine-thirty on the following morning, Wednesday, March 1.

The speakers and their topics on Tuesday afternoon will be: 1. The Possibilities of the Project Method in the Ordinary Classroom, Supt. Fred M. Hunter, Oakland, California; 2. Some Experiences with the Project Method in the Training School, Principal E. A. Hotchkiss, City Training School, Kansas City, Missouri; 3. Criteria of Project Teaching, Miss Bessie B. Goodrich, Director of Elementary Education, Des Moines, Iowa, and Mr. R. F. Franzen, Head of the Bureau of Measurements, Des Moines.

On Wednesday morning the following will be the speakers and their topics: 1. Method in Curriculum, Professor William H. Kilpatrick, Teachers College, Columbia University; 2. The Next Step in the Development of Effective Methods of Supervision, Miss Elizabeth Hall, Assistant Superintendent of Schools, Minneapolis, Minnesota; 3. Supervision Without a Supervisor, Mr. T. W. Gosling, Superintendent of Schools, Madison, Wisconsin; 4. A New View of Teacher Rating, Mr. Stuart A. Courtis, Director of Instruction, Teacher Training, and Research, Detroit, Michigan.

On Tuesday afternoon steps will be taken to elect five members of the Board of Directors. The new Board will afterward elect the officers of the Conference in accordance with the constitution.

All friends of the Conference are asked to extend the notice of the meeting and to urge those who are interested to arrange to be present.

JAMES F. HOSIC,
Sec'y-Treas.

THE JUNIOR RED CROSS

Mr. James N. Rule, Director of the Junior Red Cross, has resigned to become supervisor of science teaching for the state department of education of Pennsylvania. He is succeeded by Mr. Arthur W. Dunn, formerly specialist in civic education for the Bureau of Education. Mr. Dunn has recently issued a new pamphlet on school correspondence. This is now confined to exchange with schools in other countries.

THE HYANNIS PROJECT SOCIETY

During the last two summer sessions the State Normal School of Hyannis, Massachusetts, has provided opportunity for the study of the Project Method under the leadership of Miss Elizabeth Fisher, teacher of education in the Lowell Normal School. In order to keep in touch with each other the members of these classes have now organized a Project Society, the first meeting of which was held at the Hotel Bellevue in Boston, December 3.

During luncheon various members contributed bits of pleasantry and reports of experience. Afterwards an address on "The Present Status of the Project Movement" was given by Professor James F. Hosic of Teachers College, Columbia University. Principal W. A. Baldwin of the Hyannis Normal School was present and spoke briefly of the relations of the summer students to the school and of the Hyannis spirit, which he believes will grow.

The following resolutions were passed:

Resolved, That as an association and as individuals this organization shall promote the project method in education, especially by enlarging our own understanding of it and by sharing with others our viewpoint as to its advantages.

Resolved, That the association seek to take full advantage of the opportunity for inspiration and guidance which will be afforded by the National Education Association, whose annual meeting will be held in Boston in July, 1922.

The question of affiliation with the National Conference on Educational Method was discussed. There appeared to be a unanimity of opinion in favor of establishing such relations whenever the National Conference shall have provided a mode for doing so.

AN INVESTIGATION OF EDUCATIONAL FINANCE

The American Council on Education has secured the sum of $170,000 from the Commonwealth Fund, the Carnegie Corporation, the General Education Board, and the Milbank Memorial Fund to be used in the investigation of educational finance, and has selected a commission to conduct the investigation made up as follows: Samuel P. Capen, director of the American Council on Education, Washington, D. C., ex officio; Ellwood P. Cubberley, dean of the school of education, Stanford University; Edward C. Elliott, chancellor of the University of Montana; Thomas E. Finegan, state superintendent of public instruction, Harrisburg, Pennsylvania; Robert M. Haig, associate professor of business organization, Columbia University; Victor Morawetz, attorney at law, New York City; Henry C. Morrison, formerly state superintendent of public instruction of New Hampshire, professor of education, University of Chicago; George D. Strayer, professor of educational administration and director, Division of Field Studies, Institute of Educational Research, Teachers College, Columbia University; Herbert S. Weet, superintendent of schools, Rochester, New York.

Dr. Strayer has been selected as chairman of the commission and director of the investigation. The aims of the commission as so far announced are: to study in typical states and communities current programs of public education, how these programs are carried out, and the present and prospective costs involved. It is proposed also to look into the relation of educational expenditures to other public expenditures, methods of securing revenue for the support of education, the possibility of effecting economies, and possible sources of revenue which have not been tapped. A try-out will be made in New York State in order to develop a working method.

Among the well-known educators who have been employed to give assistance to the commission are: Dr. Albert Shiels, formerly director of educational research in the public schools of New York City and superintendent of schools in Los Angeles, California, and Dr. Carter Alexander, until recently deputy state superintendent of public instruction, Wisconsin, and formerly professor of secondary education in Peabody College for Teachers.

THE READER'S GUIDE

THE NEW GEOGRAPHY

As was to be expected, the Great War has greatly stimulated interest in the subject of geography. Within a few months several volumes have come to the reviewer's desk which, taken as a whole, reflect certain striking tendencies in organization, emphasis, and method.[1]

Two of these books, *Teaching Geography by Problems* and *The Teaching of Geography*, are treatises, of 306 and 292 pages respectively; *Teaching the New Geography* and *The Essentials of Geography: A Manual for Teachers* are condensed handbooks to accompany the corresponding series of elementary school geographies prepared by their authors, the Frye-Atwood and the Brigham and McFarlane; and the others are the two volumes making up a new series for the elementary school by McMurry and Parkins.

From the prefaces in the last-named we learn that the authors would emphasize the human side of geography, that they accept the regional as the basic treatment, that they seek to develop the problem attitude on the part of the pupils, that they would have the pupils use the textbooks to a considerable extent as a source of material for the working out of original problems, and that they aim to appeal to genuine intrinsic interests, beginning always to develop a topic on the basis of the pupil's own experience. With greater or less enthusiasm in regard to each of these points all of the authors under consideration profess similar convictions. If one should add to this analysis reference to simplicity and concreteness of presentation, greatly enlarged and improved facilities for the use of maps, pictures, supplementary reading, first-hand observation, and varied means of expression, he should have what is evidently to be regarded as the "new geography."

The aspect which stands out most strikingly in the books we are considering is the problem or project method. Smith devotes all his space to it. The brothers Branom announce as a subtitle, "The Project, or Active, Method." Dr. Atwood and Miss Thomas declare themselves unreservedly in favor of the problem method and show how to use it. Brigham and McFarlane, though more cautious, accord this method an honorable place and are careful also to illustrate it at length. McMurry and Parkins would have the text of their books regarded as a series of problems with their answers and they state numerous problems which the pupils are left to answer for themselves.

In contrast to the mere memorizing of definitions, facts, and locations, which was—and is—much too prevalent, this increased emphasis on rational processes in the study of geography is highly gratifying. The subject is now in a fair way to come into the place it should rightfully occupy.

This consummation will be greatly aided by the new stress on the human element. What man is doing to his environment and what it in turn is doing to him, these are the facts that really matter. The study of them naturally brings with it nearly or quite all of the knowledge of physiographic processes, of the influence of the heavenly bodies, of boundary lines, capitals, and centers of population, of industry and commerce, which children can assimilate.

There is another and deeper significance attaching to the new point of view. Geography

[1] The Teaching of Geography, by M. E. Branom and F. K. Branom, Ginn & Co. Teaching Geography by Problems, by E. E. Smith, Doubleday, Page & Co. Teaching the New Geography, by Wallace W. Atwood and Helen G. Thomas. Essentials of Geography: A Manual for Teachers, by Albert P. Brigham and Charles T. McFarlane, The American Book Co. Elementary Geography; Advanced Geography, by Frank M. McMurry and A. E. Parkins, The Macmillan Company.

ceases to be merely a study of man in his physical environment and becomes a study of man in his relations to other men everywhere. It takes on a genuinely social character and becomes one of the chief means of overcoming insularity and provincialism and of stimulating a lively sense of our interdependence with other, even the most distant, peoples. It may easily lead to higher and nobler conceptions of service and of world amity and peace.

All of this and much more besides is suggested by even a rapid examination of a series of recent volumes on geography that, with all of the texts and helps to which they refer, make possible, even in the case of the teacher with limited experience, a type of learning in the class in geography which is undoubtedly cultural in a true and vital sense.

SIGNIFICANT ARTICLES

SUPERVISORY POLICIES

Everyone will be glad to see an appreciation of the good work done by Superintendent C. P. Cary in his long career as head of the Wisconsin State Department of Public Instruction. Such an appreciation has been prepared by Mr. Carter Alexander, until recently Assistant Superintendent in Wisconsin, and the article is published in *School and Society* of December 10.

The principal points made by Mr. Alexander are: first, the members of the staff of the Department were chosen and directed on a professional basis; second, a truly professional theory of supervision was put into actual practice; third, the aim throughout was to do the square thing, only secondarily considering what the law would permit; fourth, as far as possible the work was done openly and above board; fifth, the administration was fearless; and sixth, as far as possible the work was done impersonally.

These criteria for measuring the merit of the Department are supported by numerous details too extensive to be reviewed here. They will no doubt be regarded as sufficient to establish the writer's contentions. The last part of the article is devoted to explaining why the Department fell and what its future is likely to be. As might be supposed, the principal cause of the Superintendent's failure to be reëlected was purely political. The various charges brought against him, such as lack of coöperation with educational agencies, were apparently without foundation. Whether the work of the Department in the future is good or bad will depend on whether political influence conducts and controls it or not.

TEACHING TEACHERS TO "MOTIVATE"

An interesting account of a course for prospective high school teachers as given in Tufts College will be found in *Educational Administration and Supervision* for November. The writer, Professor Waples, explains that the teacher in training appears to be lacking in an understanding of the kind of technique that will secure desirable responses on the part of the pupils. He therefore organized a course dealing with principles of motivation, the technique of motivation, and measurement or estimate of results. The class was asked to examine certain standard texts in order to discover what teaching methods are now being advocated. They then made a classification of types of interest. The practice exercises consisted of demonstrations of individual students, the method being supplied by the instructor, and demonstrations of the way in which the method was selected by the student himself. Finally, sixteen standard tests and scales were examined. The conclusion of the writer is that while there were a number of undesirable features in the course, there were also several assured values. The students came to realize the necessity for psychological organization of material and at least half the class made marked advance in ability to do this. A greater awareness of individual differences was developed and greater respect for the principles of educational

psychology as an aid to teaching method. In addition, the students gained in confidence. The final test of the value of the course will be, however, the success of the students in their actual teaching.

THE CASE AGAINST MYTHS AND FAIRY STORIES

We have been accustomed to encomiums of myths and folk stories as material for reading by little children. It is somewhat startling, therefore, to note in *Education* for November the following title: "The Case Against Myths, Folk-Lore, and Fairy Stories as Basal Reading for Children." The writer, Gilbert L. Brown of the Northern State Normal School, Marquette, Michigan, made an examination of reading material commonly used in lower grades and found folk-lore employed. The assumption is that this sort of reading is in harmony with the culture epoch theory. Mr. Brown points out the now well-known fact that there is little support for the culture epoch theory and that therefore heredity does not prescribe the specific subject matter of education. The defense of fairy stories is, of course, psychological. Here the argument is for the training of the imagination, but since the imagery of fairy tales is fancy, and not congruous with normal human experience, such stories should occupy but a small part of the time of the children. Emphasis should be placed rather upon reading better adapted to arouse and direct new and permanent interests.

DIFFERENTIATED COMPOSITION SCALES

The experiment in English composition which was begun at the University of Minnesota in 1917 has resulted in the publication of a series of three scales for exposition, narration, and description, in each of which structure, mechanics, and thought content are measured separately. The zero point taken is that provided by the Nassau County Extension of the Hillegas Scale and the method of deriving the steps on the scale is that adopted by Dr. Hillegas in the original Hillegas-Thorndike Scale. An account of these new scales will be found in the *Journal of Educational Administration and Supervision* for December. It is from the pen of Professor M. J. Van Wagenen of the University of Minnesota, who says that specific qualities of themes can be graded by these scales with at least as much accuracy as general merit has been measured by the scales which have preceded them.

THE CASE FOR THE LOW I. Q.

What many have been thinking, Mr. John L. Stenquist of the Bureau of Research in the Public Schools of New York City says in plain terms in the *Journal of Educational Research* for November. He points out that there are many fallacies in the present-day conception of intelligence tests. Many are narrow and academic in scope, being based largely on school success. There are, in fact, many other kinds of intelligence than are now being measured by tests of that name. This is brought out by means of a host of illustrations drawn from a study of mechanical ability which was ascertained through a series of simple tests in assembling common articles and in picture matching. The author submits that such ability as is measured by these tests may prove of greater value in certain aspects of life than the ability measured by the more abstract tests. He thinks it unpardonable to attach a stigma to pupils scoring low in the so-called intelligence tests. There is ample opportunity for them to live useful and happy lives.

THE NEW BOOKS

The American Spirit in Education. A Chronicle of Great Teachers. By Edwin E. Slosson. New Haven: Yale University Press, 1921. Pp. x + 309.

One number of a series of fifty volumes, each by a master in his field. The whole series should be accessible to teachers; it supplies a background indispensable to breadth and personal culture.

Health Education and the Nutrition Class. A Report of the Bureau of Educational Experiments. By Jean Lee Hunt, Buford J. Johnson, and Edith M. Lincoln. New York: E. P. Dutton & Co., 1921. Pp. xviii + 281.

An account of extended investigations carried on in a New York public school.

An Introduction to School Music Teaching. By Karl Wilson Gehrkens. Boston: C. C. Birchard & Co., 1919. Pp. viii + 132.

A manual covering the lower grades and high school.

Project Work in Education. By James Leroy Stockton. Boston: Houghton Mifflin Co., 1920. Pp. xiv + 167.

Historical and analytic. The author suggests a new study, to combine elements of several old ones.

How to Teach the Primary Grades. By Nellie Cooper. Chicago: A. Flanagan Co., 1920. Pp. 304.

The favorite devices of a primary supervisor.

Story Hour Readings. By E. C. Hartwell. New York: American Book Co., 1921. Fourth Year, pp. 367, illus.; Fifth Year, pp. 400, illus.; Sixth Year, pp. 400, illus.; Seventh Year, pp. 416, illus.; Eighth Year, pp. 432, illus.

Completing the popular "Story Hour Series." Prominent features are the use of current as well as classical material and the grouping of the selections.

English for Immediate Use. By Frederick Houk Law. New York: Scribner, 1921. Pp. xii + 372.

A book to supply practical as opposed to special literary needs. Exercises oc upy a large amount of the space.

The Teaching of English. A New Approach. By W. S. Tomkinson. Oxford University Press, 1921. Pp. 230.

Stress is laid on debate, to be followed up, however, by reading of classic literature.

IN PAPER COVERS

Address of the President of the United States at the College of William and Mary, Williamsburg, Va., October 19, 1921. Government Printing Office, Washington, D. C.

Opportunities for Study at American Graduate Schools. By George F. Zook and Samuel P. Capen. Bulletin, 1921, No. 6, Bureau of Education, Washington, D. C.

Present Status of Music Instruction in Colleges and High Schools. Bulletin, 1921, No. 9, Bureau of Education, Washington, D. C.

State Laws and Regulations Governing Teachers' Certificates. By Katherine M. Cook. Bulletin, 1921, No. 22, Bureau of Education.

Monthly Record of Current Educational Publications. Index, February, 1920–January, 1921. Bulletin, 1921, No. 31, Bureau of Education, Washington, D. C.

A Preliminary Study of Standards of Growth in the Detroit Public Schools. By Paul C. Packer and Arthur B. Moehlman. Detroit Educational Bulletin, No. 5, June, 1921.

Measuring Classroom Products in Berkeley, Sections 1 and 2. Directed by Cyrus D. Mead. University of California, Bureau of Research in Education, Study No. 1, 1921.

The Marking System of the College Entrance Examination Board. By L. Thomas Hopkins. Published by the Graduate School of Education, Harvard University.

Price List and Circular of Information, Bureau of Educational Measurements and Standards. Kansas State Normal School, Bulletin No. 10, 1921.

Guide Book for Foreign Students in the United States. The Institute of International Education, Bulletin No. 5, New York, 1921.

Junior Red Cross—A Program. Washington, D. C., November, 1921.—*Organization for Action,* Supplement 1, Sept., 1921.—*School Correspondence.* Supplement 2, Sept., 1921.